Senior Scholastic

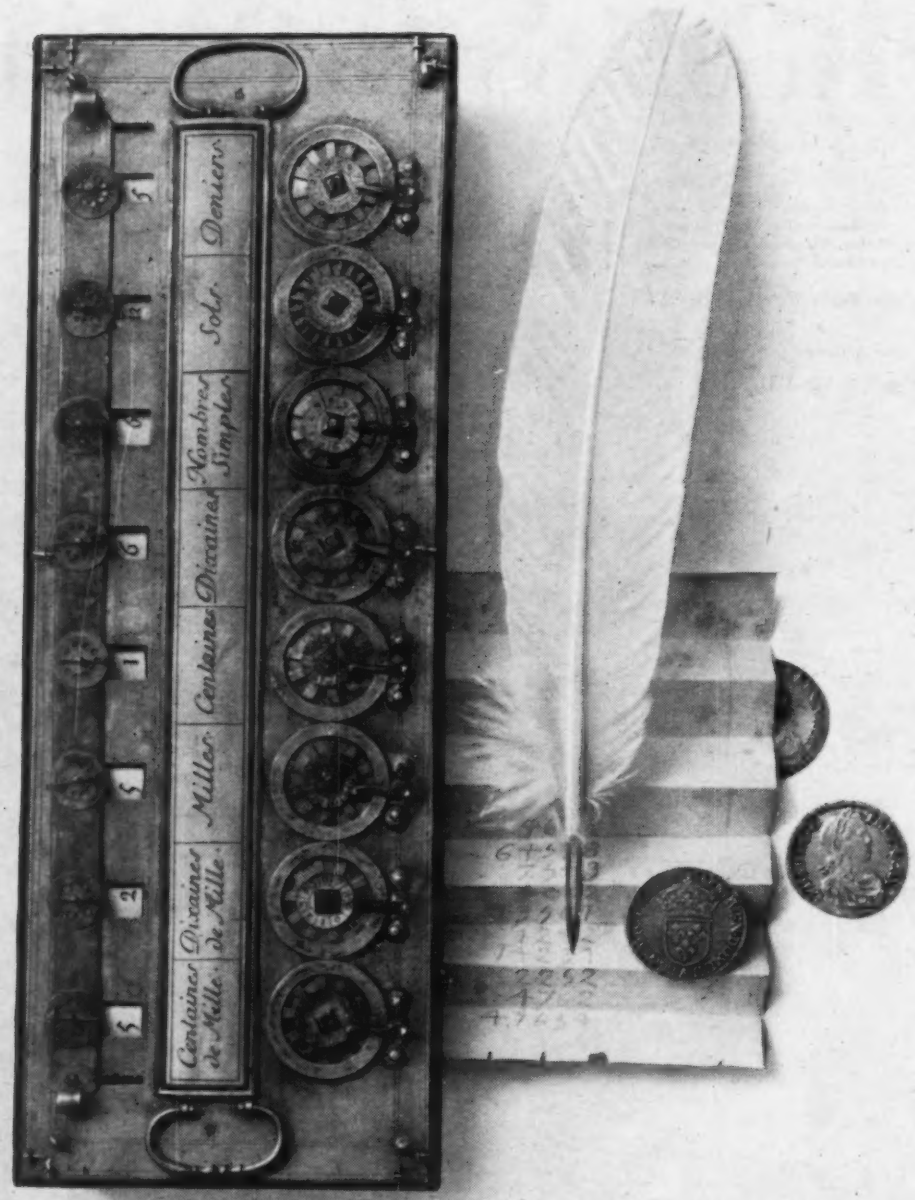
DECEMBER 5, 1958 • VOLUME 73 • NUMBER 12

Wide World photo

Dance of Awakening in Nigeria

(See "South of the Sahara . . . Africa Awakes"—pp. 10-13)

MATHEMATICS SERVING MAN



The world's first mechanical calculator was born of a teen-ager's restless ingenuity, three centuries ago. To escape the drudgery of adding columns of figures in his father's tax office in Rouen, France, brilliant mathematician Blaise Pascal built a calculating machine that worked. Today, advanced counterparts of Pascal's invention perform repetitive, time-consuming arithmetic tasks in office, plant, laboratory. Freed from the burden of routine computation, man has put mathematics to work in a thousand ways, building a richer life, exploring the mysteries of the physical world.

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Senior Scholastic

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America's Merchant Marine is the vast fleet of ships which carry goods and supplies to and from all corners of the globe. They are vital to American industry. They serve our country in peace and crisis. They serve all the peoples of the free world. Ask your teacher to send for a free Merchant Marine Information Folder to get more facts you'll need. The address is: PUBLIC INFORMATION OFFICE, MARITIME ADMINISTRATION, ROOM 3037, GENERAL ACCOUNTING OFFICE BUILDING, WASHINGTON 25, D. C. See the September 19 issue of SCHOLASTIC MAGAZINES for more contest details—and be sure to study the rules below.

WINNER'S BONUS: The first prize-winning poster bearing the student's name will be displayed on 25,000 mail trucks across the country during World Trade Week in May, 1959.

BASIC RULES AND ELIGIBILITY

1. All students in grades 9 through 12 enrolled in any public, private or parochial school in the United States and its possessions are eligible to compete. All entries must be the original work of the student. There is no entry fee.
2. Poster size: 11" x 14" desired. However, 22" x 28" may be submitted.
3. Each entry submitted must be signed on the back with the name of the student, home address, name of school, school grade, and name of the teacher or principal sponsoring the entry. There is no limit to the number of entries each student may submit.
4. Entries must be mailed no later than midnight January 17, 1959. All entries from any one school may be mailed in one package—or individually if the teacher or principal approves.
5. The American Maritime Industry reserves the right to make necessary mechanical alterations in the first prize winning entry to conform with reproduction requirements.
6. Entries will be judged on the basis of originality of idea and execution of theme by a special board of judges whose decisions will be final. All entries become the property of The Maritime Industry to be used as it sees fit, and none will be returned.
7. Send posters to: Merchant Marine Poster Contest, Scholastic Magazines, 33 West 42nd Street, New York 36, New York.

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Should you seek a Career in Life Insurance?

by CLARENCE J. MYERS, President,
New York Life Insurance Company
(As told to MORTON M. HUNT)

WOULD YOU like to be part of a business that has to do with people's brightest hopes and plans? Well, consider one whose commodity is the financial security of three-quarters of all American families.

Would you like to have a career in a great, far-reaching business? Then how about one which directly serves 109 million Americans and consists of 1,300 companies with home offices in 300 American cities?

Would you like to share in a business of major economic importance to the nation, as well? Then look into one which is helping finance home building, pipelines, jet passenger travel, iron-ore mines, industrial plants and public utilities.

And would you want to work in a business which is bustling and progressive—a "growth industry"? Think, then, about one that uses the latest electronic calculators, that offers new products hardly imagined a generation ago, that has more than doubled its dollar volume in the last ten years.

If these things intrigue you, then the career for you may be in the business I'm talking about—the life insurance business. It offers young people many important opportunities in a field that has excitement, scope and high purpose.

Life insurance has had as remarkable and vigorous a growth in recent years as almost any business you can name. At the beginning of the century, life insurance protection on the lives of people in the United States totaled less than $8 billion; by 1929—the year of the Crash—it had soared to $102 billion—and it has more than quadrupled since then! A growing demand for financial security, an expanding population, and a rising standard of living are partly responsible.

But also responsible is the forward-looking attitude of our business. More and more companies insure whole families, whole businesses, whole groups of employees—small and large. We offer protection not only against the risk of death, but against the risk of disability and costly expense, due to accident or sickness. We furnish the methods by which people can provide for their own retirement income. Today there is greater scope and flexibility than ever before in meeting individual insurance needs—and budgets—by making the best use of various kinds of policies now available. Because of such developments, last year was the best in the history of our business: Americans bought new life insurance policies amounting to $67 billion of protection, bringing total insurance in force to $458 billion.

No wonder our companies need "electronic brains"—yet more than ever we need good human ones, for the electronic calculator only reckons; it doesn't think creatively. In recent years, our business has been adding 15 thousand new employees to its payroll annually, and total employment will soon reach half a million.

Still there's no leveling off in view. The American people have never owned so much life insurance protection, yet we have hardly scratched the surface. Thirty percent of all Americans still have no life insurance whatever. Forty percent of those who do have it feel that they have too little. And our population continues to expand.

Even more attractive than the size, importance and growth of this business is the special feeling, the deep satisfaction life insurance people develop about their work. We're proud of what we do for people; I hope it won't seem overly sentimental if I say we feel there is an essential goodness about our work.

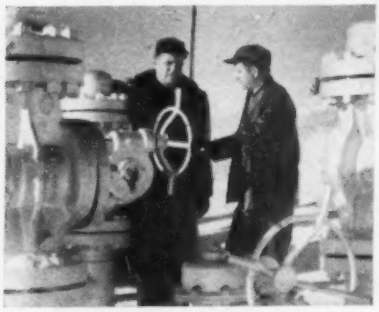
Something of that spirit is reflected in the investment side of our business also, as well as in our "insurance operations." Life insurance plays a dual financial role. On the one hand we provide family protection. In so doing, however, we become responsible for investing the funds received from our thrifty policy owners, until such time as the promises in their policies must be fulfilled. We are very mindful of this responsibility, of our duty to invest the money conservatively, yet in ways that will benefit the entire economy our policy owners live in. For example, life insurance companies have traditionally been a major source of mortgage money to help people buy homes of their own. Currently, 3 million mortgages have been made by life insurance companies, providing about one-quarter of all outstanding mortgage money. We take satisfaction and pride, then, not only in safeguarding the future of the American family but in helping importantly, in the process, to build up America itself.

If a career in such a business appeals to you, you will want to know what kind of income it offers. Generally speaking, pay scales are good. The beginning college graduate can expect about $3,600 to $5,000 to start (agents usually start on a combination of salary and commissions). Advancement is reasonably quick; not uncommonly career men earn $10,000 within 5 to 10 years. For those who grow in usefulness, there is a good deal of room in the $15,000 to $25,000 bracket, and a few leaders can, as in other fields, earn a 6-figure income.

But here is a big plus: our employment is not materially affected by boom-and-bust cycles or seasonal slumps. Even under severe economic storms, our business rides with a

reasonably even keel, for life insurance is the investment people usually buy first and hold on to longest. From the peak of 1929 to the depths of 1933, employment in life insurance dropped less than 1½ percent. Few industries can equal that stability.

What sort of openings are there in our field?



Insurance companies help keep the wheels of our economy turning by loaning tremendous sums of money to business and industry. To protect policy owners' interests, investment analysts go out into the field and collect first-hand facts about firms seeking such capital.

The list, for both men and women, is extremely varied. There is a place in life insurance for mathematicians, statisticians, accountants, agents, sales managers, investment analysts, economists, real estate experts, researchers of many sorts, personnel managers, doctors, automation engineers, lawyers, public relations and advertising personnel, methods and procedures analysts, clerical people, and so on.

Where do they all fit in? Let's take a momentary bird's-eye view of the business as a whole. Most people think of life insurance principally in terms of selling. But that's only one very important part of it. First, there are experts who research and design our "product"—the many types of protection people need in this modern world. Then the policies must be sold across the nation. Backing up the sales force are the home office and field service forces—people who authorize and issue the policies applied for, service them and pay benefits. The funds from premiums must be wisely invested to help keep the cost of insurance down; that, too, takes a special staff. Finally, throughout all parts of this operation are many levels of management.

As a result, there is room within the life insurance field for career people of many kinds of talent and personality. Let me give you just a few examples.

Investment analysis will appeal to a logical person who enjoys collecting information, asking searching questions, and getting to the roots of business operation. He studies securities, analyzes company reports and makes field trips. His findings guide the investment of life insurance funds. Many investment analysts are graduates of business administration schools, but companies will generally take a business-minded liberal arts graduate and train him for this work. However, if he is the kind who likes exciting speculation and lone-wolf operations, he won't fit into our picture. We make our investments carefully, patiently and by collective thinking.

Related to this is the work of the *mortgage loan specialist* who studies applications, evaluates properties, and works out loan terms. Some seven thousand investment analysts and mortgage loan specialists were involved in the investment of $17 billion of life insurance funds last year—almost twice as much as the federal government spent in the peak pre-war year (1940).

The *actuary* might be called the engineer in our business—he designs what we sell, determines its price and watches its performance. He is interested in mortality experience, occupational hazards, medical progress and every other factor that may have a bearing on premium rates and policy provisions, and eventually on his company's success. Of course some actuarial work is highly technical, but it isn't true—as is often popularly thought—that the would-be actuary should be something of a mathematical genius. As a matter of fact he will find plenty of opportunity to acquire special technical knowledge after he enters the business. In general the province of the actuary is statistics, and what is required of him is the habit of meticulous, rigorous thinking. That and one other thing: an abiding interest in human values. One man I know calls the actuary "a sociologist with a slide-rule." There are less than 1,800 actuaries in the United States and Canada today and the need for more is urgent.

The actuary is the "engineer" of the insurance business. And while "electronic brains" speed the calculations used by him and other specialists, human brains must pose the questions and creatively apply the answers.

The *agent* is the best known of life insurance men (there are 196,000 agents and 41,000 agency managers). In the last 20 years life insurance selling has undergone important changes. Much attention is paid to the selection of men and women for this career—including, for example, the use of psychological tests to screen out those not likely to succeed. And a great deal of emphasis is placed on company training programs.

Actually a good agent's training never stops. He strives, first, to become expert in family finance; then, to extend his knowledge into the field of "business insurance." He becomes interested in tax law and estate planning. He may need to work closely with lawyers, accountants and trust officers. Naturally, a college education is increasingly useful and important to the would-be agent.

Yet neither an education nor technical knowledge is a guarantee of success, for the agent's personality is important also. He needs a warm heart, as well as a good head. He must like to listen to other people's problems, share their dreams and instill in them a feeling of confidence in the future—and in himself. And along with everything else, he must prefer self-employment to a payroll job, for his compensation will depend on his sales and service to his clients, for which he alone is responsible. This takes discipline and self-assurance.

Yet those who are exhilarated by independence will like the career. Furthermore, the agent can rise as fast as his sales abilities permit, without waiting for a promotion. Agents can pass the $10,000 mark faster than any other life insurance careerists; many do so within five years and keep going up.

Other careers in insurance will suit still other kinds of people—the extrovert and the introvert, the imaginative man and the logical one, the restless doer and the patient planner. All pay solid salaries, and all yield a satisfying knowledge of working in a business which serves the financial needs of people as no other business does. For almost all, a specialized education is unnecessary; a general education and willingness to learn are enough . . . our trade associations offer many specialized life insurance courses.

In fact, what we need most, perhaps, isn't even taught in college—it's on-the-job management skill. Throughout our business, from agency offices to home offices and from small departments to the largest, there is a serious and growing need for additional young men and women with genuine managerial ability. From my conversations with many other life insurance executives, I know this to be the major personnel problem now facing our companies. No matter where you start, if you can capture the insurance viewpoint and demonstrate managerial talent, there is only one direction your career in life insurance will lead —straight up.

Then, as you sense more keenly to what deep social responsibility you have been led by your concern with people and their future, the higher will your own future be.

Booklets available on other careers

This article on a Career as a Life Insurance Agent is one of a continuing series on career opportunities for young men and women. Each is available in booklet form and will be sent to you on request. You'll also find additional help in our free booklet, "Planning for a College Education." Check the booklet you want below, and mail the coupon today.

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Your course guaranteed BEFORE you enlist . . . without obligation! When you're accepted as a Graduate Specialist, you receive a letter automatically enrolling you in the course of your choice . . . when and *if* you decide to enlist. Remember! Both high school seniors and graduates go through the entire Graduate Specialist application procedure *without the slightest obligation to enlist!* That means you *get* the course you want—guaranteed in writing—or you *don't enlist!*

Don't miss out! Graduate Specialist appointments in each course are *limited.* This week, get all the details from your Army recruiter.

YOUNG WOMEN . . . *As a Graduate Specialist in the Women's Army Corps, you'll have an opportunity to choose from 26 special training courses! For all the facts, contact your local Army recruiter now.*

GET CHOICE, NOT CHANCE . . .

Graduate Specialist, United States Army

Letters to the Editor

T.N.T. (Tears 'n' Tribulations)

Dear Editor:

Not a week goes by without at least one letter in *Senior Scholastic* telling us to abandon our race to the moon. Instead, the letter writers say, we should improve the living conditions of the people on Earth.

All this fancy talk is fine, except for one chilling fact. Even if we called off our moon shoots, no amount of T. N. T. (Tears 'n' Tribulations) would persuade the Soviet Union to follow our lead. And man, if you think living conditions are bad now, you just let the Commies beat us to the moon. Many earthlings who are jobless and homeless also would be lifeless.

We're not just racing to the moon. We're racing to preserve the American way of life. We did the same when we pumped our money into war machines for use at Normandy and Korea and all the other "moon races" of our time.

Kenneth Green
Lehi High School
Lehi, Utah

Safety on the Roads

Dear Editor:

Daredevils should be taken off our roads. The first time a speeder is convicted, his license should be suspended for at least one month. The second offense should result in a three-month suspension. The third offense should mean a permanently cancelled license. A speeder has no right on the road.

Nancy Green
Dartmouth High School
Dartmouth, Massachusetts

Vote at 18?

Dear Editor:

Lower the voting age to 18? That would permit me to vote in only two years. But no thanks! I don't think it is wise to give a teen-ager such a great responsibility. An 18-year-old might be pretty smart, but he might not have any common sense. Much of the latter is acquired as you mature with time and experience. Let's not rush things.

Leah Eisenstein
Bergenfield High School
Bergenfield, New Jersey

Dear Editor:

I think 18-year-olds should be allowed to vote. They are approaching the end of their high school training. They realize the importance of voting and making a good choice. If they have to wait three years to vote, they might lose interest.

Al Shannon
Glenbrook High School
Glenview, Illinois

(How about it, readers? We're always happy to hear from you. We'll publish the best letters. Mail yours, along with your name and school, to: Letters to the Editor, *Senior Scholastic*, 33 West 42nd St., New York 36, N. Y.—*Editors.*)

High Cost of Dating

Dear Editor:

I sympathize with Oscar Jorgesson *[see October 24 issue]*. A girl should be considerate of a boy's wallet. Most nice girls appreciate small favors and gifts. But a girl is asking too much if she wants lots of money spent on her every time she goes out. Oscar's girl loves his money—not him.

Katy Grater
Andrews School for Girls
Willoughby, Ohio

Dear Editor:

It doesn't hurt to spend some money on a girl. But five dollars is overdoing it. To save money, Oscar should stay home, play records, and dance. If his girl can't take a hint, he should come right out and tell her. If she objects, she isn't worth it. The "Dutch treat" is all right once in a while. But Oscar should not make a habit of it. After all, there are a lot of nice places where he can take the girl for very little money. These include the movies, school dances, and football or basketball games.

Becky Emry
Allen High School
Allen, Nebraska

Double Exposure

Dear Editor:

The photo on the front cover of the November 7 *Senior Scholastic* shows a football game. The play in progress should be called back. Player Number 84 is holding player Number 22.

Charles Nolan
Grundy County High School
Tracy City, Tennessee

(The end definitely was not holding. It was just the camera angle that makes it look like a foul. Actually, the end wasn't close enough to the linebacker to grab anything but a handful of air.—*Editors.*)

Dear Editor:

On your November 7 cover, you use the caption: "Busting Through the Line on a Quick Hand-off." Why did you use "busting"? A recent issue of *Scholastic Magazines' Practical English* states that "busting" is not a word. Instead, "burst" or "break" should be substituted.

Norma Toot
Carrollton Exempted Village Schools
Carrollton, Ohio

(We're "busting" out all over with embarrassment. But our sports editor assures us that "busting" is a common football expression—used by every coach, player, and sportswriter.—*Editors.*)

Ideas to Live By

In the cause of freedom, we have to battle for the rights of people with whom we do not agree; and whom, in many cases, we may not like. These people test the strength of the freedoms which protect all of us. If we do not defend their rights, we endanger our own. —HARRY S. TRUMAN

Fitzpatrick, St. Louis Post-Dispatch
End of the H-Bomb Debate?

Nuclear Weapons...

Should We Snuff Them Out?

Pros and cons of the 1958-59 College Debate Topic:

Should the further development of nuclear weapons be prohibited by international agreement?

THE QUESTION AT ISSUE

In our October 10 issue, we presented a pro and con discussion on the 1958 National High School Debate Topic ("U. S. Schools—Which Way Ahead?").

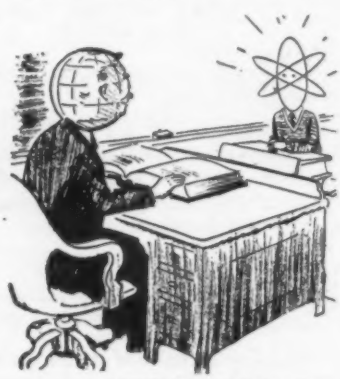
This week we present the College Debate Topic—a "hot" international subject: Nuclear weapons and their future development.

Some people contend that continued development of nuclear weapons and their possible use in a war could lead to the destruction of much of the civilized world. Some also argue that radiation from H-bomb tests is a danger to both present and future life on Earth.

Last month, delegates from the United States, Britain, and the Soviet Union met in Geneva to discuss the possibility of a permanent ban on further nuclear tests.

The U. S. officially halted nuclear weapons testing for one year—effective midnight, October 31, 1958. The halt has an important condition: the Soviet Union must halt its nuclear tests for one year, too. Otherwise, says the U. S., we will start testing again. So far, the Russians have refused to commit themselves. On November 1 and 3, however, the Soviet Union conducted two nuclear tests which were detected by the West.

At Geneva, the U. S. and Britain have insisted that it would be impractical to ban nuclear tests *unless* some system could be set up to police the ban. The U. S. favors establishing a globe-girdling network of "control stations." These stations would contain seismographs and other scientific equipment which could detect a nuclear blast anywhere in a given area. U. S. experts believe that a network of 180 such stations could provide cheat-proof policing of a nuclear test ban. (For more background on this and other disarmament plans, see "Understanding the News" in our issues of Sept. 19, 1958; May 9, 1958; and May 10, 1957.)



Carmack, Christian Science Monitor
Promising Pupil—If Well Guided

Here are some of the major arguments on *both* sides of the question.

FOR!

1. Nuclear weapons have become so destructive that a nuclear war could destroy most of the world.

Eight days after the U. S. dropped the first A-bomb on Hiroshima in World War II, once-mighty Japan surrendered.

Today, the nuclear weapons developed since 1945 make the A-bombs dropped on Japan look feeble in comparison. The Hiroshima bomb had the explosive power of 20,000 tons of TNT. An H-bomb tested at Eniwetok atoll in 1954 had the power of 20,000,000 tons!

Here is another shocker: During World War II, the U. S. flew nearly 3,000,000 missions over Germany, dropping a total of about 2,700,000 tons of TNT. This total is only one-tenth of the explosive power of *one* H-bomb!

A single H-bomb could totally destroy everything within a 10-to-14-mile radius of the explosion center. It could obliterate an entire city like Chicago, New York, or San Francisco. Furthermore, deadly radiation could contaminate an area of 7,000 square miles (equivalent to all of New Jersey).

Continued development can lead only to more monstrous weapons of destruction. For all the horrors of the H-bomb, something worse is already on its way—the C-bomb. This is an A-bomb wrapped in an H-bomb, in turn wrapped in a shell of cobalt. The radioactivity of the cobalt—several hundred times more deadly than radium—could end all existence over thousands of square miles!

Forum Topic of the Week

The C-bomb is so frightening that neither the U. S. nor the Soviet Union says much about it—and both sides deny they are working on it. But, needless to say, neither side is quite sure it can trust the other's denials!

The only way out of this insane, suicidal race is to stop right now!

2. There is great danger to future generations in continued development and testing of nuclear weapons.

Unless the nations of the world agree to control nuclear weapons, we may—in the words of Secretary of State John Foster Dulles—"wipe life off the surface of this planet."

The most critical hazard is radiation. When human beings receive too much radiation during the first 30 years of life, there is danger that their offspring may be born with serious deformities.

Dr. Robert H. Holmes, director of the U. S. Atomic Bomb Casualty Commission, reports: "Our findings with regard to the late effects of radiation upon [Japanese] A-bomb survivors . . . are increased evidence of leukemia [a form of cancer of the blood] and cataracts." And, he adds, "mothers exposed to heavy radiation have a slightly above-normal tendency to stillbirths."

Don't let that word "slightly" fool you. A Nobel prize winning chemist at the California Institute of Technology, Dr. Linus Pauling, says: "Testing of nuclear devices will increase the amount of [gene] mutations in human beings by one per cent." That *one* per cent, adds Dr. Pauling, "dooms 15,000 children to a defective life!"

Deadliest element in radioactive fallout is strontium-90—which attacks our bones. Tiny particles can hover in the atmosphere for years, then "snow down" on land where crops are planted or cows pasture—causing slow harm.

Mauldin, St. Louis Post-Dispatch

Will a Drop a Day Keep Future Generations Away?

3. We have reached a stalemate in the "Cold War." Therefore, we should negotiate a ban on further development of nuclear weapons.

Both the United States and Soviet Russia now have huge stockpiles of nuclear weapons. Military experts say that either nation could instantly launch well-directed missiles at the other—missiles with nuclear warheads! These missiles could reach their targets within five to 30 minutes. Any alleged advantage either nation might have in weapons or men would be wiped out overnight!

Today, only three nations have a stockpile of nuclear weapons. But how much longer will it be before other nations catch up? Senator Hubert Humphrey (Dem., Minn.) puts it this way: "If we think we are in peril now, then the peril to our survival will be precarious indeed once many countries can annihilate each other."

Senator Humphrey adds a key point: "Freezing nuclear weapons development at present levels should involve no threat to U. S. security, since we have been assured we are ahead of the U. S. S. R. in weapons technology."

Some of the most distinguished minds in the world recently signed a public plea urging a "freeze" on nuclear weapons development: Mrs. Franklin D. Roosevelt, former U. N. Secretary-General Trygve Lie, British philosopher Lord Bertrand Russell, French-Catholic author Francois Mauriac, and Dr. Albert Schweitzer, among others (*see our news review, Nov. 14 issue*).

As Dr. Schweitzer has put it: "He who uses atomic weapons becomes subject to the fate of a bee—namely, when it stings it will perish. . . . A nuclear war is therefore the most senseless and lunatic act which could ever take place. This must be prevented."

It can be prevented only by stopping where we are! It is no answer to say that the Russians are opposed to "foolproof" inspection, or that the Russians can't be trusted. Soviet obstinacy or obstruction does not absolve the Free World from its duty to take steps necessary to save us all.

AGAINST!

1. It is impossible to work out an international agreement that we can have confidence in.

Let's understand one thing first: Why are we in a nuclear arms "race"? We are in it because the Soviet Union has forced us there. The leaders of the Soviet Union have time and time again proclaimed their intention to conquer the world.

The only way we can stop them is to remain as strong as we can—and one jump ahead of them in the development of nuclear weapons. Only if the Russians know that any attack by them against us would bring even worse destruction to them, can we hope to live in peace.

Fischetti, NEA Service

Ready for the First Small Step?

An "international agreement" is a waste of paper. You cannot trust a totalitarian dictatorship—and the Soviet record proves it.

"In the past quarter century, the Soviet Union has violated 50 out of 52 agreements with nations of the world!" warns Sen. Styles Bridges (Rep., N. H.).

In 1946, when we had a monopoly of atomic weapons, we proposed an atom control plan (the Baruch Plan). Russia rejected it. Time and again we have sought some kind of agreement. Russia has repeatedly refused to agree to any.

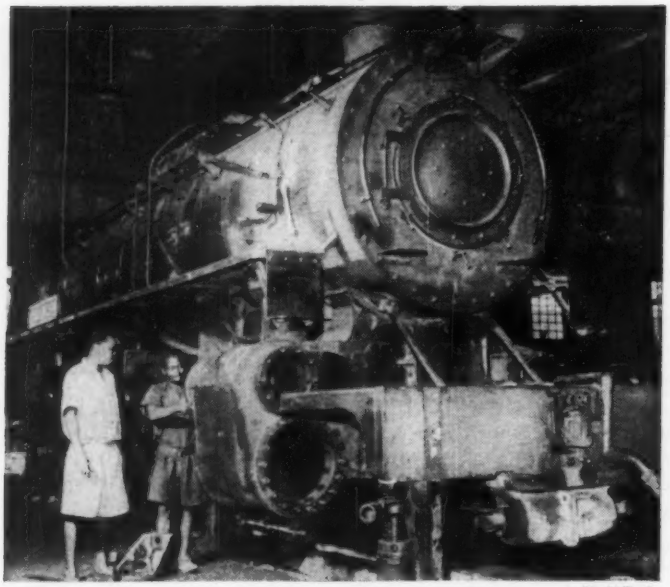
2. Recent scientific studies indicate that the harmful effects of continued tests are not so serious as believed earlier.

Extensive studies have been made of the radiation danger of every A-bomb and H-bomb explosion to date. Careful experiments have been carried out by both the Atomic Energy Commission and the U. S. Weather Bureau—"tracking" radioactive clouds and fallout.

The conclusion of these studies: There simply is no justification for the "scare stories" being spread. There is more danger to people from today's automobile traffic than there is from atomic fallout!

If the "distinguished" persons who get in a dither about nuclear tests would examine the facts more closely, they would calm down. An AEC study reveals that if nuclear weapons tests were to continue at the present rate for the next 100 years, the average man would still receive only four per cent as much radiation from this source as he gets

(Continued on page 28)



World Bank

Modern Africa. **Railroads in Nigeria are being modernized. Trade will expand with 400 miles of new track, added to present 240 miles.**

UPI photo

The Old Ways—Witch **doctor of tribe is calling for rain in dance ritual.**

South of the Sahara...

A new day is dawning for what was once "Darkest Africa" . . . Below the Sahara, millions of people are taking giant steps into the twentieth century

THE flag-making business is booming in Africa. Until three years ago, only three countries south of the Sahara desert flew their own flag: Liberia, Ethiopia, and the Union of South Africa. Today, colony after colony in Africa is achieving independence. One by one, colorful new national standards are replacing the faded emblems of colonialism.

In 1956, the Sudan gained freedom from British and Egyptian rule. In 1957, Britain's Gold Coast colony joined the Commonwealth as the free nation of Ghana. This year, French Guinea became just plain Guinea. The territory automatically won independence on September 28. On that day, 98 per cent of its people voted "no" to the new constitution proposed by French Premier Charles de Gaulle. (Guinea and Ghana have agreed to join as a "confederacy" that would be the "nucleus of a union of West African States.")

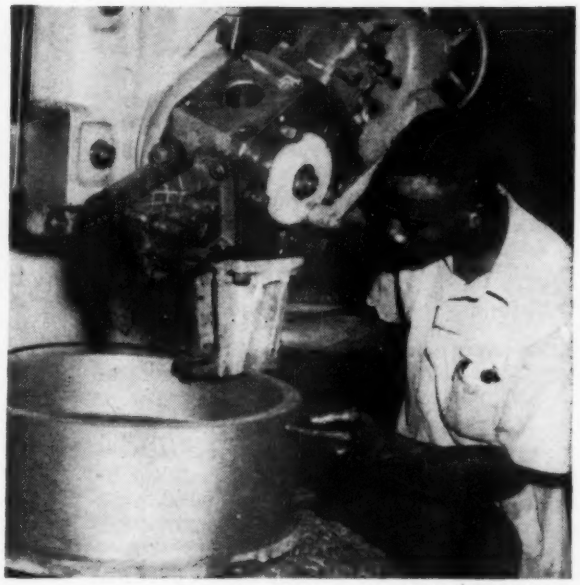
The people of the other 13 French-held territories in sub-Sahara Africa cast "yes" ballots. They voted to keep their ties with France. But they may, if they desire, still choose complete independence or self-government within the new "French Community." The French island of Madagascar, off the southeast coast of Africa, already has chosen the latter course. It now is called the Malagache Republic.

Africans expect to ride the independence bandwagon for years to come. Nigeria's 40,000,000 people will salute their own flag on October 1, 1960. Togo, the Cameroons, Sierra Leone, and Somalia also are slated to achieve nationhood within a few years. Other territories, however, will remain dependent for some time to come. Their colonial rulers do not yet consider them sufficiently advanced to strike out on their own.

Vast Power Potential

By 1963, nearly three fourths of all Africa's 200,000,000 people are expected to be self-governing. This raises some vital questions for the West. What course will the fledgling nations of Africa follow in world affairs? Will they seek to develop their political and economic life through close ties with the West? Or will they spurn their former European rulers—and fall prey to harsh Communist masters from the Soviet Union?

Before we explore these questions about Africa's future, let's explore Africa itself. What kind of a land is sub-Sahara Africa? What are its people like? How did Africa come to be colonized?



British Information Service

Railway machinist in Ghana is turning a locomotive piston ring. Ghana is world's leading exporter of cocoa.

Senior Scholastic map

Sub-Sahara Africa *(in heavy color)* has 150,000,000 people. Countries shown as shaded are independent.

Africa Awakes

Most of Africa is a huge plateau nearly four times as large as the continental United States. There are few mountain ranges, but mighty rivers, such as the Nile, Congo, Zambezi, Limpopo, and Niger, criss-cross the continent.

At present, only a fraction of the hydroelectric power available from these rivers has been harnessed. But many dams are now under construction or in the planning stage. One project on the Congo River may, when completed, be the biggest single power plant in the world, with more than ten times the capacity of our own Grand Coulee dam. Some experts believe Africa's total power potential is equal to the *combined* capacity of Europe and North and South America!

Mineral Treasure House

In addition to power, Africa has fabulous mineral wealth which has barely been scratched. African mines already produce most of the world's industrial diamonds, cobalt, columbite, and gold, plus huge quantities of manganese ore and uranium. Buried in Africa's soil also lie rich deposits of iron ore, copper, tin, and many other minerals. Beneath the sands of the Sahara lie vast reservoirs of oil.

This combination of power and minerals means just one thing. Africa—that fabled, fierce land of lions, gorillas, Tarzan, and witch doctors—will someday rank among the world's great centers of industry.

Senior Scholastic map

Map shows where most of the people of Africa live. Only about 10 per cent of Africa's soil now is farmed.

the latter course. It now is called the Malagache Republic.

colonized?

Agriculturally, Africa today is poor. Less than ten per cent of the total land area is under cultivation. Centuries of poor farming methods have turned much of the soil into eroded wasteland. What's more, enormous stretches of desert, dry grassland, and jungle severely limit the acreage available for farming.

More than one third of the continent is covered by the Sahara desert—a sea of sand which separates North Africa from so-called "Black" Africa. Another, smaller desert—the Kalahari—spreads over much of southwestern Africa. Nomadic shepherds and goat herders eke out a meager existence in the deserts.

Bordering the deserts are semi-tropical grasslands, called *savannas* in the north, and *velds* in the south. Here cattle are raised, and crop farming is made possible in some areas by dams and irrigation.

The closer one moves toward the equator, the heavier becomes the rainfall and the thicker the vegetation. Immense, thick, steaming jungles and tropical woodlands are found in central and western equatorial Africa. Chief plant products of these regions are cacao, mahogany, teakwood, rubber, palm oil, and gum arabic. Rice, tobacco, tea, and coffee are among the crops raised in the temperate, fertile highlands of the eastern equatorial region.

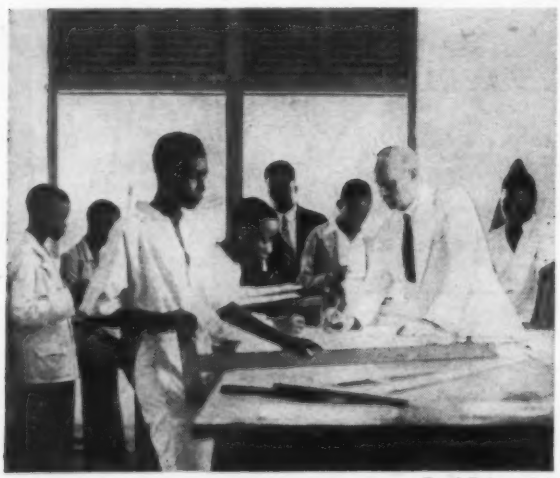
Speak 800 Native Languages

About 150,000,000 people inhabit sub-Sahara Africa. Of these, only about 3,500,000 are descendants of Europeans, most of whom live in the Union of South Africa. There are also a few Arabs, Indians, and Malayans scattered through southern and eastern Africa. The overwhelming majority are dark-skinned Africans. These are divided into several ethnic groups which, over the centuries, have intermingled in many places. Ethiopians and Sudanese are of mixed Hamitic, Semitic, and Negroid origin.

Elsewhere between the Sahara and the equator live the so-called "true" Negroes. South of the equator one finds numerous tribes of the Bantu-speaking peoples. Small numbers of primitive Pygmies, Hottentots, and Bushmen live deep in the interior.

Most dark-skinned Africans live in tribes held together by chiefs, pagan rituals, and ties of kinship. There are hundreds of tribes, speaking some 800 native languages. In some areas, millions of people speak the same language. In others, a different dialect is spoken every few miles. Three fourths of the people are farmers. Some are hunting tribesmen. A small but growing number are factory workers, highly skilled craftsmen, and professional people.

Europeans knew nothing of Africa south of the Sahara until the late 1400's, when Henry the Navigator of Portugal explored Africa's west coast and sailed around the continent, seeking new trade routes to Asia. Henry was followed by European traders who exchanged goods for gold and ivory.



French Embassy photo

This class in architectural design in French Equatorial Africa will some day help to build new homes for emerging Africa.

Opening the "Dark Continent"

The traders soon began to deal in a different kind of commerce, however. Settlers in the New World demanded slaves to work their plantations. Result: from 12 to 15 million slaves were shipped from West Africa to the Americas between the sixteenth and nineteenth centuries. Western nations outlawed the slave trade more than 100 years ago. In the feudal kingdoms on the Arabian peninsula, however, slavery is still practiced, and East Africans are kept as slaves.

Dutch colonists founded the first permanent white settlement in South Africa in 1652. Other scattered settlements grew up along the fringe of the continent. But few white men dared venture into the wild interior until David Livingstone, a British missionary, began his famous explorations a century ago.

Other explorers followed Livingstone's footsteps into the "Dark Continent." Their discoveries aroused great interest in Europe during the late 1800's. European businessmen, struggling through a depression, saw in Africa an opportunity to establish new markets for their goods. Christian missionaries became eager to convert and to educate the Africans. By 1902, all of Africa except Ethiopia and Liberia had been parceled out among the colonial powers of Europe.

Tremendous changes have been wrought in Africa during the last 60 years. But a great deal more remains to be done before the continent fully emerges into twentieth-century life.

Moving into 20th Century

Africa has shrunk as railways, steamships, automobiles, and airplanes have blazed new trails across the vast expanses. The telegraph and radio now link territories whose people only recently did not know of each other's existence. Yet there remain jungles where no white man has ever set foot. Many roads are unpaved and impassable during rainy seasons. Africa's transportation and communication systems still are in their early stages.

Before the colonial powers took over, many African tribes lived in constant fear of famine and disease. Great efforts have been made to control floods, increase agricultural output, apply modern medicine, and destroy deadly insects. Yet large parts of Tanganyika, for example, still are uninhabitable because of tsetse flies (transmitters of the dreaded sleeping sickness). Millions of Africans can barely work half a day because they are undernourished or infected with hookworm or malaria.

Imagine a continent made up almost entirely of illiterate people. This was sub-Sahara Africa 60 years ago. Not only could Africans not read and write. Their hundreds

of languages had no alphabets and had never been written down. Considering these immense difficulties, the strides made in educating Africans have been enormous. Credit for this progress goes to both public and mission schools. Through use of our own Latin alphabet, books are now being written in many of the native tongues. Millions of children throughout Africa attend school for at least two or three years. But the great majority still have no opportunity to learn the three R's. Less than five per cent reach high school.

However, a few thousand Africans have received a university education, either in Africa or abroad. They are making valuable contributions to their communities in science, industry, agriculture, and politics. But these well-educated persons constitute a tiny minority. Africa needs more schools, more universities, more teachers to meet the great and growing challenge of modern life.

Sources of Friction

Because of racial, cultural, and economic differences between white and colored populations, tensions have arisen in many parts of Africa. The least tension exists in Ghana, Nigeria, and Togo, where there are practically no white settlers. Here the transition from colonial control to independence is least complicated.

In "multi-racial" territories—such as the Rhodesias, Kenya, and Tanganyika (all British)—the conflict is more serious. The colored people argue that they ought to be given the most political power because they are in the vast majority. The whites insist that they should continue to rule because they are "more advanced" and pay the most taxes. Many white settlers have built up large ranches and other properties in these territories and intend to spend their lives there. The British are seeking to bring about compromises between the two groups and create friendly "partnerships." Once this goal is achieved, these territories, too, will gain their independence.

Racial tensions are greatest in the independent Union of South Africa. Here the white-controlled government follows a strict policy of segregation, or *apartheid*. The whites —who are outnumbered about four to one by non-whites— fear they would be "swamped" if apartheid were relaxed. They believe that both groups will be better off it allowed to "develop separately." Dark-skinned South Africans, however, are becoming increasingly bitter about the restrictions imposed on them. South Africa's racial policies have been strongly criticized by members of the United Nations.

Because South Africa is highly developed, the non-white people are better off economically than in most other parts of Africa. Their standard of living, however—as throughout Africa—remains far below that of whites.

The Communist Threat

Average yearly income in most of Africa is less than $30. This poverty is slowly being eliminated through industrial and agricultural expansion. To speed up this development, millions of dollars worth of aid and investment are pouring into Africa from Western governments (including the U. S.), the United Nations, and business firms.

Meanwhile, Africans everywhere are rallying to the stirring cry of political equality. Some Western colonial nations are heeding the cry, granting independence to one territory after another. Where they remain in control, most

French Embassy photo

Radio commentator at Brazzaville, capital of French Equatorial Africa, is broadcasting news. Africa has radio networks.

of the colonial nations are trying to prepare the people for responsible self-government.

Many African nationalists—particularly in British and French territories—are cooperating in this task with their colonial rulers. But the Soviet Union is seeking to turn African nationalism against the West. The Soviets have made tempting offers of "aid" to new nations such as Ghana and Guinea, and have spread Communist propaganda. So far the Soviet offers have not been accepted, and communism has made few converts among Africans. But Soviet pressure is increasing.

Strategically, Communist control of Africa would cripple Western defenses. The U. S. and its allies would become mere "islands" in a Red sea. Economically, the great resources of Africa, and the trade routes running through and around the continent, are essential to Western survival. Little wonder that the West is vitally concerned to keep Africa non-Communist.

Meeting Threat of Nasser

Another threat comes from the pro-Soviet United Arab Republic, headed by Gamal Abdel Nasser of Egypt. He is spreading anti-Western propaganda among restless Africans. Nasser may have scored a triumph in the Sudan, where pro-Western Premier Abdullah Khalil was removed in a bloodless revolt last month by General Ibrahim Abboud.

On the other hand, Nasser may be facing a rival for African leadership in the person of Kwame Nkrumah, the U. S.-educated prime minister of Ghana. Nkrumah has called a conference for liberating "Black Africa," to open December 5 at Accra, Ghana's capital. Dozens of African political organizations will send representatives. Western nations, including the U. S., will send observers. UAR officials are reported worried that Nasser's dream of "liberating" Africa may be foiled if Nkrumah succeeds in forming a new nationalist movement of his own.

Ultimately, independent Africans are determined to forge their own future, in their own way. They want help, but do not want to be told how to manage their affairs. Above all, they want to be treated as equals.

will some day help to build new homes for emerging Africa.

only could Africans not read and write. Their hundreds

PETROLEUM...

Lifeblood of American

Oil industry, nearing its hundredth birthday, keeps our wheels spinning smoothly

THE hot sun beat down on Titusville, Pa. It was August 1859. On the outskirts of town, a loud thud shattered the August heat at regular intervals. The noise came from inside a tall wooden derrick. There, a hissing steam engine was battering a heavy iron chisel into the ground.

The chisel soon struck bedrock with a ringing clang. From there on, it was slow going—about three feet a day. Two weeks dragged by. It was a long wait for Edwin L. Drake, manager of the Seneca Oil Company.

For Drake was playing a hunch. It would make or break this former railroad conductor. The Seneca Oil Company had sent him to Titusville to inspect a strange spring. Oil floated on this spring like cream on milk. Drake's assignment: find a way to collect this oil for commercial sale.

Several persons already had attempted to gather this oil. One man had piped the spring water into long wooden troughs. There, he tried to skim off the oil. He could collect only six gallons of oil each day.

Drake had a better idea. Instead of skimming off the oil on the surface, he decided to tap the oil at its underground source. People dug for water. Why not dig for oil? Drake hired an experienced driller, William A. Smith. With pick and shovel, Smith's crew dug a deep pit down to bedrock. Then they began to chisel into the rock.

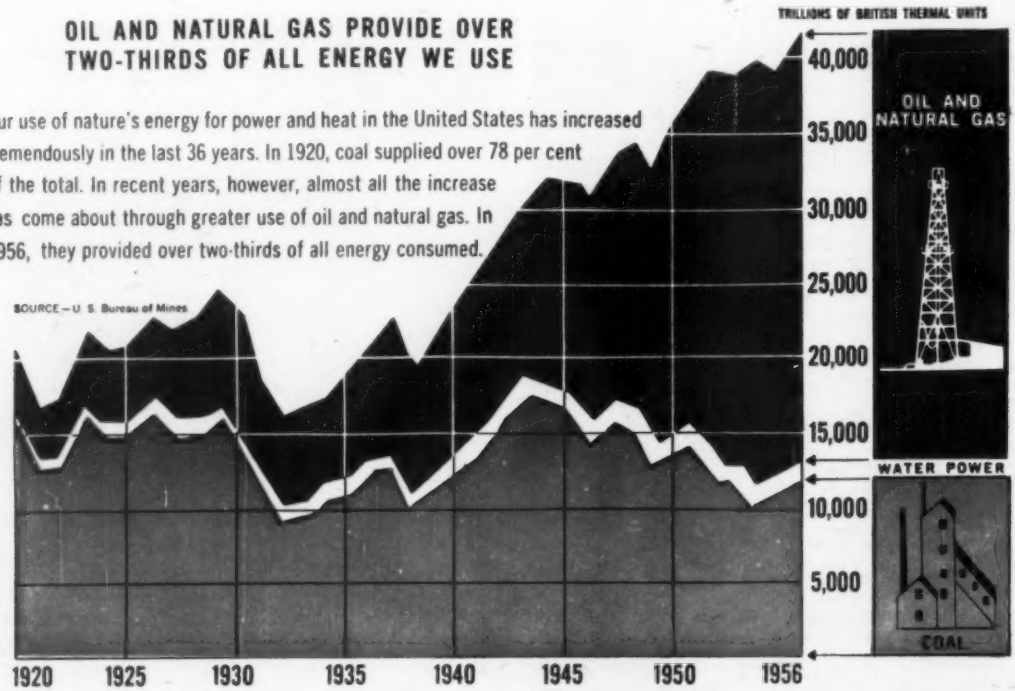
The men struck oil. But they also broke into an underground stream. They were almost drowned before they could be pulled to safety.

The Titusville townspeople snickered at "Drake's folly." But Drake was not discouraged. Clearly, digging a pit by hand was out of the question. So why not sink a four-inch cast-iron pipe to bedrock? Then a chisel could be lowered through the pipe and hammered into the bedrock. The pipe would line the hole, preventing another cave-in.

For a while, everything went well. The chisel bit deeper and deeper: 20 feet, 40 feet, and then . . . a letter from the directors of the Seneca Oil Company. The letter explained that the company had run out of funds. Drake was ordered to halt drilling operations.

OIL AND NATURAL GAS PROVIDE OVER TWO-THIRDS OF ALL ENERGY WE USE

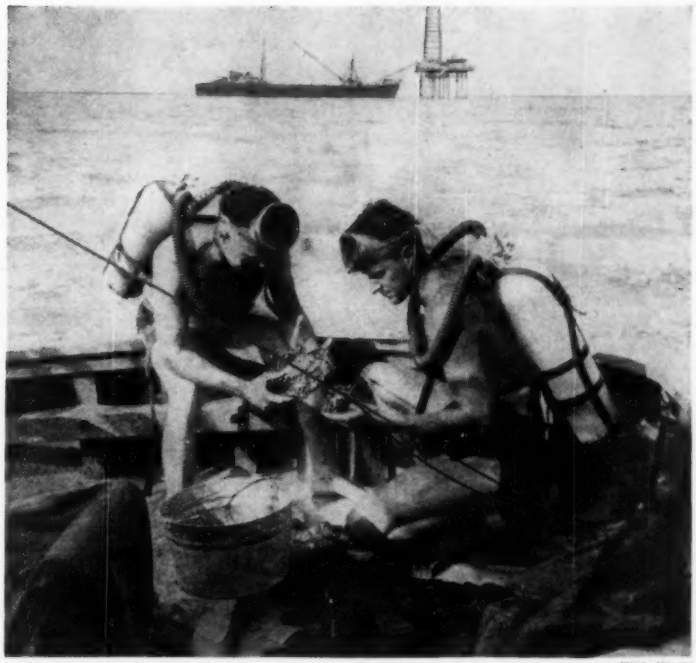
Our use of nature's energy for power and heat in the United States has increased tremendously in the last 36 years. In 1920, coal supplied over 78 per cent of the total. In recent years, however, almost all the increase has come about through greater use of oil and natural gas. In 1956, they provided over two-thirds of all energy consumed.



SOURCE—U. S. Bureau of Mines

territory after another. Where they remain in control, most Above all, they want to be treated as equals.

Industry



Wide World

Skin divers bring up rock samples from ocean bottom. By studying samples, geologists can estimate chances of finding oil in that area. Offshore drilling rig stands in background. Well is drilled from floating platform in sea.

Drake stopped drilling on Saturday, August 27, 1859, at a depth of 69.5 feet. The very next day, Smith happened to squint down the iron pipe. Something glittered at the bottom of the hole. Excited, Smith tied a long string to a small dipper, and lowered it into the hole. When he yanked out the dipper again, it was dripping with oil.

That was the birth of the American petroleum industry. Soon, thousands of wells were being drilled around Titusville and throughout the nation. To Edwin L. Drake went all the credit for drilling the first oil well. He also was the first to use iron pipe as casing to prevent cave-ins and a steam engine to pound the drill into the ground.

Health Tonic to Lubricant

Drake's exploit capped centuries of attempts to unlock oil from the earth. Previously, man had to skim petroleum from surface springs similar to the one at Titusville. These were places where small amounts of oil seeped to the surface through cracks in the rock below. In Biblical times, the builders of Babylon and Nineveh used surface oil to strengthen mortar for walls.

Sometimes the escaping natural gas caught fire. In Iran, superstitious people worshipped these "eternal fires" as gods. But the ancient Chinese knew a good thing when they saw it. They harnessed the flaming natural gas to heat their homes.

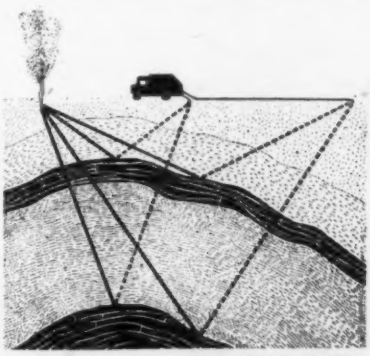
Early Americans also took advantage of the magic trapped inside the black gold. American Indians and early settlers drank petroleum as a "health tonic." The Indians showed George Washington's soldiers how to treat frostbite, blisters, and raw wounds by daubing them with petroleum.

But petroleum was scarce. In the nineteenth century, man obtained most of his oil from another source—the sperm whale. But sperm whales were becoming scarce. Meanwhile, new machines—such as the steam engine—were being developed. Oil was needed to create a slick film between the moving parts of these machines. Otherwise, the moving parts would become red hot from friction, and wear out quickly.

Gasoline—Waste Product

At this time, scientists discovered that kerosene, a petroleum product, could be used for heating and lighting. But how could you produce large quantities of kerosene without large quantities of petroleum? Drake's well solved the problem. It produced 400 gallons of oil daily, proving that reservoirs of oil lay beneath man's feet. But it also created problems.

The first problem was how to transport the oil. In the beginning, the crude petroleum was transported in wooden barrels on barges or railroad flatcars. Then, in 1865, the first oil pipeline was built near Titusville. It was only two inches in diameter and five miles long. But it showed how petroleum could be sped to a refinery. Armed guards had to be hired to protect the pipeline from angry teamsters and railroadmen. They feared the pipeline would cost them their jobs.



American Petroleum Institute

Geologists find oil-bearing rock by setting off explosive charge, then measuring time echo takes to bounce back.

Meanwhile, scientists were experimenting with new ways to distill kerosene from petroleum. The distilling was done in refineries. One of the first big refineries was started by John D. Rockefeller. The refining was done in containers called *stills*. The crude petroleum was poured into a still. Then the petroleum was heated until it vaporized.

As the vapor cooled, it condensed back to a liquid. But the various compounds in the petroleum had different boiling points. This meant that the compound with the highest boiling point condensed first. Those with lower boiling points condensed in turn, one-by-one. As each compound condensed, the liquid was run off into separate vats.

Early stills produced kerosene, gasoline, and a heavy sludge. The kerosene was used for lighting and heating. The sludge was put to work as a lubricant. But nobody knew what to do with the gasoline. It exploded when it was used in lamps. Many petroleum processors merely threw it away. *(Turn page)*

Early in the twentieth century, the automobile solved the problem of what to do with gasoline. In fact, the petroleum industry soon was straining to produce enough gasoline for the thousands of autos that rolled off assembly lines each year. The next problem was how to get more gasoline from each barrel of petroleum.

The challenge was met in 1913. That year, the first successful *cracking process* was perfected. In this process, the molecules of the crude petroleum are torn apart by a chemical reaction. Then the molecules are strung together again to form gasoline. In 1915, for the first time, the petroleum industry produced more gasoline than kerosene.

To Whirl the Wheels

Ever since, the petroleum industry has played a major role in the U. S. economy. For petroleum has become the vital lifeblood of American industry. Gasoline and diesel fuel make America's wheels go round. Petroleum lubricants make the wheels turn smoothly.

The oil industry has helped change our entire way of life. How? A century ago, most work was done by men and animals. Only a very small amount of energy—about six per cent—came from coal or water power. Result? The average factory worker put in 70 hours a week. A farmer worked even longer hours.

More Power to You

Today, the whole picture is turned around. Animal power and man power now do only about six per cent of our work. All the rest is done by machines. Petroleum products fuel more than half these machines, and lubricate all of them. The average factory worker of today works only a 40 hour week. Yet, he can produce three times as much as the average factory worker of 1859 could turn out in a 70 hour week.

Oil has changed our life in other ways, too. The farmer and manufacturer no longer depend on local demand for their products. Swift truck transportation allows even perishable products—such as strawberries—to be grown in one part of the nation and sold fresh thousands of miles away.

The automobile and bus have allowed our cities to mushroom. Metropolitan areas now sprawl over many square miles. The auto or bus speeds us to school or to work in a central location. Although we live in the suburbs or country, we can easily enjoy the benefits of the city. The automobile has shrunk the nation. It has helped draw Americans together.

The farmer, too, benefits from petroleum. Gas-powered machines help him plow, plant, cultivate, and harvest. He can now farm more land with less labor. Trucks whisk his products to market over roads that are often made of asphalt—a petroleum product. Gasoline engines operate pumps, cream separators, and electric generators on the farm.

Oil Pays for Roads

Our network of roads and highways—best in the world—also can be traced to the petroleum industry. For petroleum provides the plentiful fuel for the motor vehicles that make these good roads necessary. It also helps pay for many of these roads. Many states tax gasoline to get funds for building and repairing state roads.

The petroleum industry also plays a major role in U. S. defense. Petroleum provides fuel and lubricants for trucks, tanks, ships, and airplanes. It also goes to war as fuel for napalm bombs and flame throwers. And petroleum products are major ingredients in explosives, artificial smokescreens, waterproof tents, and synthetic tires.

At the end of World War II, millions of Americans turned to another petroleum product—natural gas—to heat their homes. Today, natural gas pipelines lace the nation.

Oil Takes the Lead

In recent years, the petroleum industry has become the major source of power for America. In 1946, for the first time, petroleum products provided more power for the nation than coal power. In 1956, petroleum products provided two thirds of all U. S. sources of energy combined (*see chart*).

Today, nearly 2,000,000 Americans are employed by the petroleum industry in America alone. Other millions of Americans owe their jobs indirectly to the petroleum industry. These are the workers who produce the products needed by the petroleum industry: steel, iron, electric power, motor vehicles, gasoline engines, chemicals, cement, rubber, paint, tin, and dozens of others.

In addition, the petroleum industry provides many other industries with materials that go into their products. Petroleum products are used in linoleum, cleaning fluids, paints, lacquers, drugs, cosmetics, soaps, detergents, inks, waxes, plastics, and hundreds of other products.

To meet the demand for millions of gallons of petroleum each year, the industry always must be on the lookout for new oil reserves. A century ago, the search for oil was a hit-or-miss business. Oil prospectors knew that oil usually collected in certain rock formations. They could locate these rock formations on the surface. But nobody knew for sure what types of rock lay under the ground.

(Continued on page 34)

Standard Oil Co. of New Jersey

Oil wells are drilled with powerful bits. Average well is 4,000 feet deep.

Understanding the NEWS

Berlin: East vs. West—Again

The Soviet Union launched a new "cold war" crisis to throw the West off balance—this time over the divided city of Berlin.

Since the end of World War II in 1945, Berlin—former capital of Germany—has been occupied by troops of the four victorious Allied powers: the U.S., Britain, France, and the Soviet Union.

Each of these four nations has ruled a sector of Berlin. The sectors ruled by the three Western powers—jointly called West Berlin—have been an "island of freedom" behind the Iron Curtain—since the city is located within Communist East Germany. At present, 10,000 U.S., British, and French troops occupy West Berlin.

In mid-November, the Soviet Union said it planned to pull its forces out of East Berlin and turn over control of its sector to the East German Communist puppet government. The Soviets challenged the Western powers to pull out of West Berlin and similarly turn control over to East Germany.

The West's reply: We stay in Berlin.

Commented Willy Brandt, mayor, West Berlin: "We can be thankful from the bottom of our hearts that the free world is behind free West Berlin. It belongs to the free West."

▶What's Behind It. At the end of World War II, the U.S., Britain, France, and the Soviet Union divided Germany into four occupation zones.

The "Big Four" made their German headquarters in Berlin, located deep inside the Soviet zone of Germany. Russia promised to let the Western Allies pass through the Soviet zone to bring food, medicine, and supplies into West Berlin. Certain highways, railroads, and canals were opened as supply routes. There were also three 20-mile-wide air lanes.

In 1948 Russia suddenly blocked all the overland routes. The Russian aim: to squeeze the U.S., Britain, and France out of West Berlin—by starving West Berlin into submission. The idea was to show the Germans—and the world—that Russia was stronger than the Western Allies.

The Allies refused to budge. They launched a huge "air lift" program. Flying night and day from June, 1948, to October, 1949, Allied planes brought nearly 2,400,000 tons of supplies into West Berlin. The Russians gave in and reopened all the routes.

Goal of the Western Allies was to let the Germans set up their own democratic government through free elections in all zones. Russia refused to cooperate. It knew the East Germans, as well as the West Germans, would vote *against* communism. So Germany remained divided.

The Western Allies, however, united their three occupation zones in West Germany. In 1949 they permitted West Germans to draw up a constitution for their own free na-

Venezuelan President Quits Job In Order to Seek It

UPI

Interim President Sanabria (wearing sash) watches Adm. Larrazabal resign presidency.

As oil-rich Venezuela prepared for its first free elections in 11 years—to be held Dec. 7—Admiral Wolfgang Larrazabal resigned as president of the governing junta.

His reason: to devote himself full-time to campaigning for election as the constitutional president. He says he did not want other candidates accusing him of using his position to advance his election chances.

Admiral Larrazabal, 47, has been chief of the five-man junta which took office last January, following the overthrow of dictator Jiménez.

Larrazabal is the candidate of the Republican Democratic Union, and also has the support of Venezuela's Communist party. His opponents: Romulo Betancourt (Democratic Action party) and Rafael Caldera (Christian Socialists).

Venezuela's Communist vote is estimated at about 150,000 of a total electorate of 2,500,000. In a close election, this vote could be decisive.

tion—the German Federal Republic. Later that year the Soviets set up a Red puppet regime in East Germany.

The Western Allies (and West Germany, too) have refused to recognize the East German Communist regime. They fear that recognition would make the puppet government permanent and thus destroy all chances for the reunification of a democratic Germany on basis of free elections.

But now a new problem has been tossed in the West's lap—by Russia's saying it will turn over its rights in Germany and in Berlin to the East German Communist government. The Soviets also say they plan to transfer to the East German government control of all supply routes connecting West Berlin with West Germany. Up to now, Soviet officials have controlled Western military traffic through East Germany.

The Soviet aim, according to most observers, is to gain Western diplomatic recognition for the Soviet's East German puppets. How? By forcing the West to submit to East German traffic control.

If and when East German police are put in charge of Western military traffic through East Germany, the West could adopt one of the following three courses of action:

▶(1) It could ignore East German traffic checkpoints and try to drive through without stopping. If the East Germans put up barriers, it could ram through with tanks and guns.

▶(2) It could ship supplies into Berlin by air. The famous 1948 airlift successfully broke the Soviet's ten-month-long Berlin blockade.

▶(3) The West could yield to control by East German policemen, but treat them as Soviet "agents." This would get around diplomatic recognition.

Observers believe one reason the Soviets want to drive the West out of Berlin is to stop the flood of refugees that stream daily into West Berlin from East Germany. *Three million* persons have fled East Germany since 1945—nearly 1,500,000 since 1954! Many are skilled technicians badly needed by the Reds.

Loss of West Berlin would not only mean abandoning 2,200,000 West Berliners to the Reds. It would also be a tremendous blow to the free world's prestige—since the West has repeatedly proclaimed its determination to stay in West Berlin.

(Watch for major article on Germany in next week's issue.)

Justus in Toledo Blade

Hitchhiker???

Mid-East Cauldron Still Boils

Unexpected events brought new tensions to the jittery Mid-East.

Nations involved in these events:

▶**Sudan:** General Ibrahim Abboud, head of the country's armed forces, seized control of the government November 17. The bloodless coup toppled the pro-Western cabinet of Premier Abdullah Khalil. A state of emergency was declared and the constitution was suspended.

Would Gen. Abboud's regime remain friendly to the West? As we went to press, there was no clear answer—although many observers thought it would.

In fact, some observers believed the coup had the blessing of Khalil himself. It was said he feared Sudan's government might be taken over by the National Unionist party. This party is favorable to Gamal Abdel Nasser, president of the United Arab Republic (Egypt-Syria), Sudan's neighbor to the north. Sudan and the U.A.R. have been feuding over their respective share of the Nile River (which flows through both Sudan and Egypt). *(See article, pages 10-13.)*

▶**Jordan:** King Hussein of Jordan charged that fighter planes of the United Arab Republic tried to shoot down the plane in which he was flying to a European vacation. The attack occurred November 10 over Syria (which is part of the U.A.R.). The royal Jordanian plane flew back to Amman, capital of Jordan, and King Hussein promptly cancelled his vacation. Hussein called on the United Nations Security Council to take up the matter.

The United Arab Republic denied it had attacked Hussein's plane. A spokesman in Cairo said one of its patrol planes had "escorted a plane back to the Jordan border" after it had refused to identify itself while over Syrian territory.

About a week later, Jordan, without explanation, withdrew its complaint in the U.N. In the meantime, observers reported that Hussein's popularity in Jordan had risen since the plane incident.

▶**Lebanon:** As we went to press, the United Nations started to withdraw the U.N. Observation Group in Lebanon (UNOGIL). This group was sent to Lebanon as a result of a U.N. Security Council resolution of June 11—to check on alleged infiltration of men and arms from neighboring Syria. The infiltrators were said

to have aided Lebanese anti-Government rebels.

The U.N. said it was convinced the Lebanese Government had regained full control of its territory and that no infiltration was now going on.

▶**Iraq:** Former Foreign Minister Fadhil Jamali, charged with treason by Iraq's revolutionary government was convicted and sentenced to death *(see news photo, Oct. 17 issue)*.

Tribe Hits "Warpath"

The Tuscarora Indians went on the "warpath" in upstate New York near the Canadian border.

The tribe was out for wampum—via the U.S. court system. Reason: the New York State Power Authority wanted to flood one fifth of the Tuscarora's reservation for a new reservoir. The proposed reservoir would be part of one of the world's largest power projects—provided for by a U.S.-Canadian treaty of 1950.

The authority got condemnation papers from the state to tear down 37 Indian homes to make way for the reservoir. Bulldozers moved in—ready to go to work. The Indians protested.

The authority offered to pay $1,100 an acre for the 1,383 acres it said it needed. It also offered to pay all moving expenses and to improve the rest of the 6,249-acre reservation.

The Tuscarora said no. A few suggested that the tribe powwow for more money. Others insisted on keeping the white man's foot completely off the reservation. The tribe finally decided to take the matter to court.

The Tuscarora won the first skirmish. The U.S. Court of Appeals ruled that, under Federal law, no Indian land could be condemned for public use except with permission of the United States Government. The court ordered the Federal Power Commission (FPC) to investigate the tribe's claims.

▶**What's Behind It:** In 1924, the Tuscarora moved from North Carolina to their present reservation in upstate New York (near the Canadian border). About 520 Tuscarora now live on the reservation.

The tribe consists of six clans. Each clan has a chief (sachem) and six vice-chiefs (assistant sachems).

Women play the major role in tribal politics. The women of each clan select the sachems and assistant sachems. Then the winners must be approved by the oldest woman in each clan. Only then is the winning ticket submitted to the council of clan chiefs. They usually accept it.

The Tuscarora are thoroughly "Americanized." For example, Black Cloud, chief of the Tribe of Tuscarora—otherwise known as Elton Greene—is a former stage actor, farmer, carpenter, and Baptist preacher (most Tuscarora are Baptists).

Today the Tuscarora smear on war paint, don headdresses, or smoke peacepipes only for photographers. TV and the telephone have taken over where the smoke signal left off.

As the New York State Power Authority has learned, however, the clan chiefs can read a legal brief just as well as their ancestors read a smoke signal.

UPI

Wide World

YOUNG RECORD-HOLDERS—Paula Cohen may be starry-eyed, but not over movie stars! She's first student in annals of University of California at Los Angeles to achieve Master of Arts degree in astronomy. By day she plots satellite orbits for an aircraft firm, by night studies at UCLA—in addition to her normal chores as housewife. At Princeton, N.J., physics major Richard Chappell, 20, is youngest member in history of Explorers' Club, worldwide club of about 1,000 explorers. He spent year in Antarctic with IGY team as representative of U.S. Boy Scouts.

IN BRIEF

They Also Served. The U.S. Air Force will "retire" 280,000 civilian members of its Ground Observer Corps on January 31, 1959. The Distant Early Warning radar network (the DEW Line) has made the "plane spotters" obsolete.

The "spotters" program was set up nine years ago on a round-the-clock basis. Volunteers manned 16,000 observation posts from coast to coast, trained to spot any sneak air attack. The Air Force praised the G.O.C. as "the greatest civilian peacetime volunteer organization in the history of our country."

Draft Call Cut. The Defense Department has trimmed the size of its draft call for January to 9,000 recruits—2,000 less than its usual "call" in recent months. The cut came as the U.S. began to trim back the size of our Armed Forces to about 2,525,000 men.

A Mouthful for Posterity. The village of Pontedassio, in northern Italy, has become the site of Italy's newest museum—a Spaghetti Museum. The museum contains poems about spaghetti, paintings and etchings of spaghetti, and copies of government decrees about spaghetti standards.

A few Italian faces dropped at opening ceremonies when it was revealed that spaghetti is really a *Chinese* dish! Marco Polo found it on his travels 700 years ago and brought it back to Italy.

Stories in a Sentence

▶**Rome:** Pope John XXIII broke a 372-year tradition by raising the total number of members of the Sacred College of Cardinals to 75 (from 70)—including two new American Cardinals: Archbishops John F. O'Hara of Philadelphia and Richard J. Cushing of Boston.

▶**UNESCO: Dr. Vittorino Veronese,** noted Italian anti-Communist, won election as new chief of the United Nations Educational, Scientific and Cultural Organization (UNESCO)—despite a last-ditch Soviet move to block his election.

▶**United Nations:** President Eisenhower declared December 10 as U.N. Human Rights Day, to honor the tenth anniversary to the United Nations Universal Declaration of Human Rights.

Science in the News

"Silent" Sound at Work

The year: 1945. The place: the Pacific Ocean. The scene: an American destroyer is playing cat-and-mouse with a submerged enemy submarine.

The submerged submarine twists and turns. But the destroyer stays right with it. For the destroyer is equipped with sonar. Ultra-high-frequency sound waves, too high for the human ear to hear, are probing the depths.

When the sound waves strike the sub's hull, they bounce back to the surface. The sonar picks up the returning sound waves. By measuring the time it takes the sound waves to reach the sub and bounce back again, the sonar pinpoints the depth and location of the submarine.

On the destroyer's deck, depth charges are set for the proper depth. When the sonar indicates that the destroyer is directly over the submarine, the depth charges are flung into the ocean. Moments later, an underwater explosion roils the water. Oil and wreckage rise to the surface. Scratch one enemy sub.

Now let's jump ahead in time. The year: 1958. The place: a quiet American barnyard. The scene: beef cattle are filing past a sonar detector.

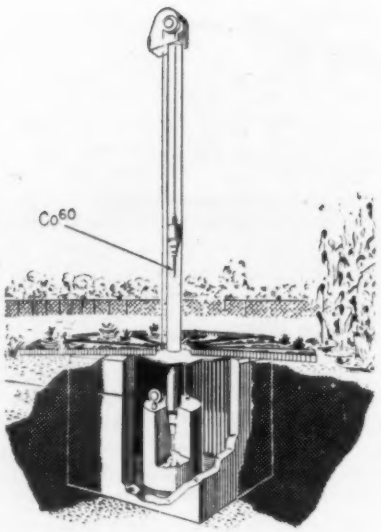
What's going on here? The answer: agricultural scientists have harnessed sonar for peaceful purposes. They are using "silent" sound to measure the thickness of the fat and lean meat that underlie the hide of livestock.

Remember how the sound waves bounced off the submarine's hull? These waves also bounce off layers of fat, lean meat, and bone. Each of these layers has a different density. The thickness of the fat and lean meat is translated into wavy green lines on a cathode ray tube (like the picture tube in your TV set). And the animal doesn't feel a thing!

Sonar will help produce better meat for our tables. Livestock raisers will now be able to select and set aside their choicest animals for breeding new herds. They also will know when their other animals have grown meaty enough to bring premium prices. And meat packers will be able to select animals with uniform leanness. Result: better and leaner meat for the consumer.

Atomic Farm

Farmers at the Brookhaven National Laboratory on Long Island, N. Y., reap a strange harvest. For these "farmers" are atomic scientists. They work a 10-acre "atomic farm," where crops are bombarded with intense radiation.



Radioactive cobalt 60—inside tall tube—is raised by remote control to irrradiate crops. Before scientists enter "atomic farm," cobalt is lowered into lead-lined box. Lead locks in the lethal radiation.

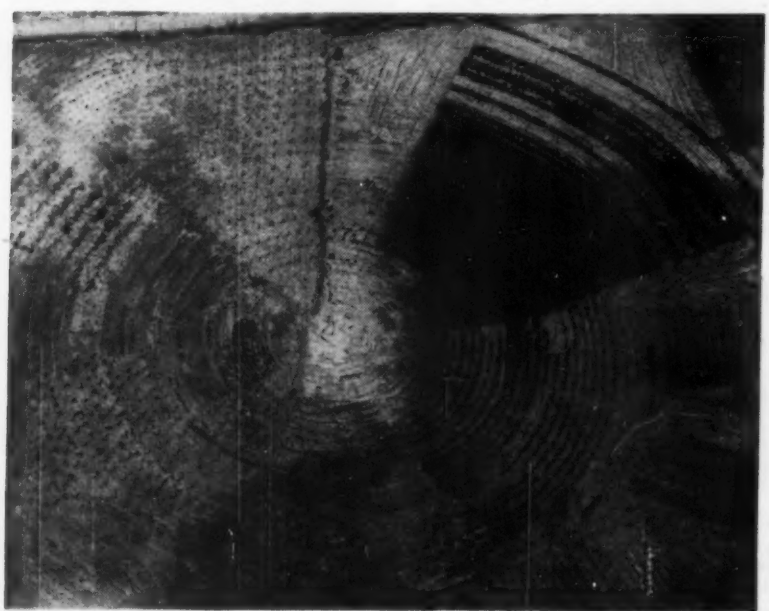
From an airplane, the atomic farm looks like a gigantic, circular target (*see photo*). At the bulls-eye is a tall, stainless steel tube. Inside the tube is a long cylinder of radioactive cobalt 60. The cobalt can be raised or lowered by remote control from a distant building (*see diagram*).

When scientists want to cultivate plants in the atomic farm, they lower the cobalt into a lead-lined container. The lead locks in the deadly radioactive rays. The utmost safety precautions must be taken. The lethal rays would kill a human being within an hour.

The radiation from the cobalt breaks down the cells in the growing crops. This produces weird mutations (changes) in the crops. For example, tobacco plants develop thin, stringy leaves—instead of broad foliage. Flowers near the cobalt are only one-eighth the size of similar flowers growing on the outer edge of the farm.

Once in a while, mutation creates an improved plant. Scientists have developed a strain of oat that resists rust disease. This disease kills millions of dollars worth of oat crops each year. Scientists also have developed a disease-resistant variety of bean plant, and a hardy strain of rice.

Peaches, too, have been changed for the better. Scientists have developed two new strains of peaches. One strain ripens two weeks earlier than usual. The other ripens two weeks later than usual. This will help stretch out the peach harvest. Fresh peaches will be on the market for longer periods.



Illustrations courtesy Brookhaven National Laboratory

This is bird's-eye view of "atomic farm." At its center is steel tube containing radioactive cobalt 60. Radiation creates new strains of fruits and vegetables.

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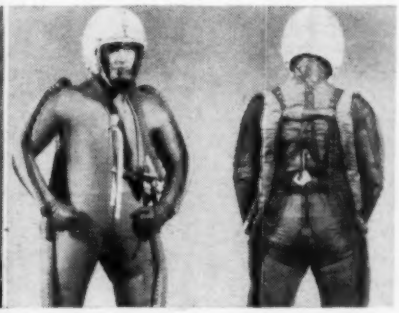

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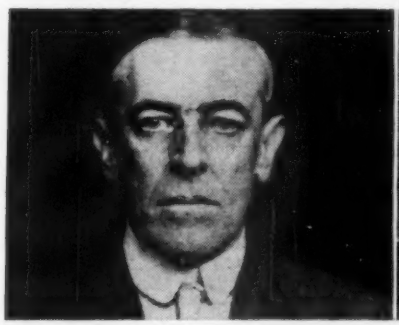

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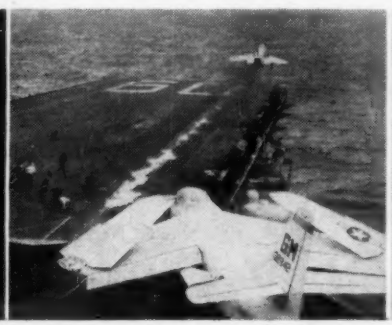

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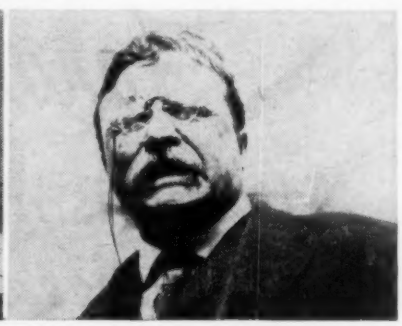

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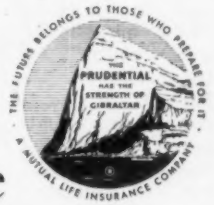
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Drawing by Karoly and Szanto

Faraday's invention of the electric generator changed the Industrial Revolution.

Faraday . . .

Magnetism Becomes Electricity

By ISAAC ASIMOV

AN ENGLISH physicist was lecturing before an audience in London about 120 years ago on some of the tricks that could be performed with magnets and wires. He had a coil of wire hooked up to a galvanometer. This is an instrument used to measure electricity. It has a needle which moves when current flows through the instrument. Of course, since the galvanometer was not connected to any battery, there could be no current flowing through it. The needle was motionless.

But watch! The lecturer lowered a bar magnet into the coil. The needle jerked to the right. From nowhere, apparently, an electric current had appeared. He removed the magnet. The needle kicked again, this time to the left. Very curious!

After the lecture, one story goes, an earnest woman out of the audience approached the lecturer. "But, Mr. Faraday, of what use is the electricity set up for just a split-second by that magnet?"

Very politely, Michael Faraday asked in return, "Madam, of what use is a new-born baby?"

Another version of the story is that a politician asked him the question and that Faraday had retorted, "Sir, in twenty years you will be taxing that electricity."

Bookbinder's Apprentice

Michael Faraday was born near London on September 22, 1791. His father, a hard-working blacksmith with ten children, moved his family to London when Faraday was a lad.

There, young Faraday was apprenticed to a bookbinder. This was a stroke of luck, for it exposed him to books. Officially, he was concerned only with the outside of books, but he could not help opening the pages and dipping into the inside as well. Nor could he help becoming interested in science.

Faraday had a second stroke of luck. His employer encouraged young Faraday to read the books and allowed him to attend scientific lectures as well.

Faraday attended the lectures with great enthusiasm. He took extensive notes, and when he came home he would write them up carefully, adding his own diagrams to make them clearer. The lectures he enjoyed most were those given by Humphrey Davy of the Royal Institution. Davy was England's most famous chemist and a very popular lecturer. Faraday sent him a copy of the notes he had taken of the lectures, and asked for a job as Davy's laboratory assistant.

Davy read the notes with pleasure and amazement. At the first opportunity he gave Faraday the job he requested. Faraday was 22 when he took the job at the Royal Institution, at a salary that was smaller than the one he had been earning as a bookbinder.

Davy Discovers Faraday

Davy had invented the miners safety lamp and the carbon arc. He had discovered numerous chemical substances, including eight new elements. Yet it is usually said that his greatest discovery was Michael Faraday.

Faraday virtually lived in the laboratory and showed himself worthy of his master in every respect. After Davy died in 1829, Faraday took his place. In 1833, he was appointed professor of chemistry.

Faraday carried on Davy's most fa-

(Continued on page 24)

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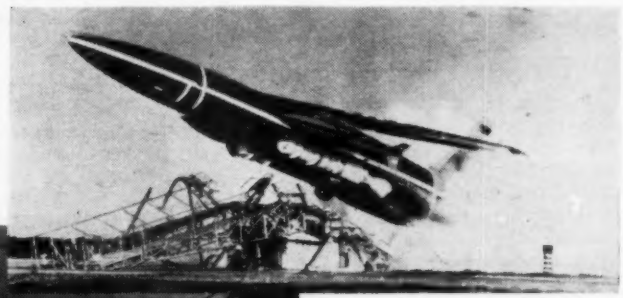

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Faraday

(Continued from page 22)

mous work. Davy had isolated most of the elements he had discovered by separating them from chemical compounds by means of an electric current. Faraday discovered that the electricity required to liberate the unit equivalent mass of any element is precisely the same. That is, the same electricity liberates the same number of atoms. Faraday's researches led to the modern concept of the electron.

Fascinated by Magnets

But Faraday was fascinated by magnets. He sprinkled iron filings on paper held over the poles of magnets and noticed how the filings lined up between the poles in definite patterns. Magnets, he said, were surrounded by invisible "fields of force." The filings made "lines of force" visible.

Thus, it was only natural for Faraday to become interested in the connection between electricity and magnetism. In 1820, a Danish scientist, Hans Christian Oersted, had found that wires through which electricity was flowing showed magnetic properties.

If electricity set up a magnetic field, thought Faraday, why should not a magnetic field set up electricity? He worked out an experiment to test this. He wound a coil of wire around one segment of an iron ring. This coil was attached to a battery. The circuit could be opened and closed by a key. If he closed the circuit a magnetic field would be set up in the coil, as Oersted had shown, and it would be carried through the iron.

Then a second coil was wrapped around another segment of the iron ring. This coil was connected directly to a galvanometer. If Faraday's theory was right, the magnetic field created in the iron ring by the first coil would set up a current in the second coil. This current would be indicated by the galvanometer.

First Electric Generator

On August 29, 1831, Faraday tried the experiment. It didn't work! At least, not as he thought it would. The magnetic field itself created no current. *But starting or breaking the field set up a current.* When Faraday closed the circuit in the first coil, the galvanometer attached to the second coil kicked its needle. When he broke the circuit, the needle kicked again, in the opposite direction.

Faraday decided that it was not the magnetic lines of force in themselves that set up the current. It was the *motion* of these lines across a wire. When the current started in the first coil of wire, the magnetic field sprang into being. Expanding lines of force cut across the wire of the second coil. When the current was broken, the magnetic field died. The collapsing lines of force again cut across the wire of the second coil.

He showed this fact more plainly to himself and to audiences by inserting a magnet into a coil of wire. Only while the magnet was being placed in the coil or taken out did current flow in the coil. It would also flow if the magnet were motionless and the coil were being placed over it or removed. But if both magnet and coil were motionless, there was no current.

Faraday had discovered how to make magnetism induce an electric current to flow. He had discovered "electromagnetic induction."

Two months later, Faraday took the next step. How could he produce a

continuous current out of magnetism in some convenient way? He set up a thin copper wheel which could be turned on a shaft. Its outer rim passed between the poles of a strong magnet as it turned.

As it turned between the poles, the wheel cut lines of magnetic force constantly, so that a current of electricity was constantly flowing through the wheel. Two wires, ending in two sliding contacts, were attached to this gadget. One contact brushed against the copper wheel as it turned. The other brushed against the shaft. A galvanometer in the circuit showed that as long as the copper wheel turned, a continuous current was generated.

In this way, Faraday generated electricity out of mechanical motion. He had invented the first electric "generator."

Electrical induction can play interesting tricks. Electrical power is determined by two things: the quantity of electricity passing through a conductor per second (amperage), and the force driving the electricity (voltage). When a current in one coil induces a current in a second coil, the power in both coils must be the same, but the details can vary. For instance, if the second coil has twice as many loops of wire as the first coil does, its voltage is doubled, but its amperage is cut in half.

Thus, a current can have its characteristics transformed in the process of induction. Faraday's two coils on an iron ring is the simplest version of our modern "transformers."

His Greatest Discovery

Faraday lived on for 35 years, working and lecturing. At Christmas time he gave many series of lectures for young people. His lectures on the candle have been collected in a book, *The Chemical History of the Candle,* which may be found in most libraries. His three-volume *Experimental Researches* may also be found in many libraries. These are the notebooks in which his discoveries are recorded. They make interesting reading.

Faraday made many contributions to science. There is scarcely an area of modern physics that does not have its starting point in his work. However, when he died on August 25, 1867, there was no doubt that his greatest discovery was that of electrical induction. His greatest inventions were the generator and the transformer.

The importance of his discovery was just this: It offered the first practical method of turning mechanical energy into electrical energy.

Before Faraday's time, there had been steam engines and waterwheels. They produced mechanical energy in large amounts out of burning coal and falling water. However, these were large in size. They could serve mills on the spot, but not homes and offices.

Power That Travels

There were sources of electricity before Faraday, in the form of chemical batteries. These could supply only small amounts of current.

Faraday's discovery of electromagnetic induction pointed the way to the production of electricity in generators turned by the mechanical energy of steam or falling water. He made it possible for the Industrial Revolution to flow out of the factory and, in the form of electricity, into the home.

The politician who supposedly questioned the value of electromagnetism would indeed be astonished at the amount of taxes collected today from company and consumer as a result of the use of this current.

CHIQUITA'S BANANAGRAMS

In sandwiches, bananas are a perfect go-between!
(Sent in by Karen Willis, age 13, 614 Green Cove Lane, Dallas, Texas)

You said it, Karen! Bananas are perfect in peanut butter sandwiches, or jelly sandwiches, or cheese sandwiches – and try them on French toast, pancakes or waffles! However you fix them, bananas taste good. Isn't it nice they're so good for you, too?

Bananas break the "pound" barrier against between-meal snacks! (Sent in by Sophie C. Benjamin, age 16, 713 New Jersey Ave., Brooklyn, New York)

That's right, Sophie. There's no reason *not* to enjoy a banana whenever you're feeling hungry. A medium banana has only 88 calories, yet it satisfies. And bananas help you look and feel better because they give you a well-rounded supply of vitamins and minerals.

Wonderful taste, slim on the waist—havabanana! (Sent in by Jimmy Stanton, Age 11, 337 Queenstown, Bartlesville, Okla.)

Havabanana yourself, Jimmy – and read this to your Mom. The U.S. Department of Agriculture says that a medium banana has only *88 calories!* Yet bananas are one of the best-tasting foods you can eat – with a satisfying flavor that delights your sweet tooth.

$25 for your Bananagram!

Can you think up a funny phrase or sentence about bananas? Just print it on a post card and send it to us – and be *sure* to print your name and address, too, and your age. If we publish your "bananagram," we'll send you $25. And whether we use your bananagram or not, you'll get a present from Chiquita that's fun.

It's easy!

How long is a "bananagram"? There's a top limit of twenty words. Often the funniest bananagrams are very short—only four or five words long.

Don't bother to send a picture

We'll make up a picture for each winning entry. Only the actual *words* of your bananagram will count in picking the winners.

How many entries can you send?

As many as you can think up! Print each bananagram on a separate post card, though. Or you can send several entries in one envelope. Print each one on a separate piece of paper, and be sure *each piece of paper* has your name and address and age on it.

Be first in your school to win a bananagram prize! Send your bananagram TODAY to United Fruit Company, Box 98B, Mt. Vernon, New York.

HAVABANANA TODAY

Bananas belong in your daily diet!

UNITED FRUIT COMPANY

What Do You Know?

A quiz on facts, ideas, and words in this issue.

I. SUB-SAHARA AFRICA

On the line to the left of each of the following statements, write the letter preceding the word or phrase which best completes the sentence.

__1. All of the following countries in Africa are independent, *except*
a. Liberia c. the Cameroons
b. Ethiopia d. Sudan

__2. Ghana was a former colony of
a. Great Britain c. Portugal
b. France d. Spain

__3. The Malagache Republic was known formerly as
a. French Guinea
b. Togoland
c. Southeast Africa
d. Madagascar

__4. All of the following are rivers in Africa, *except* the
a. Amazon c. Congo
b. Nile d. Zambesi

__5. Africa can become a great center of industry because it is known to possess all of the following, *except*
a. sources of hydroelectric power
b. mineral resources such as iron ore, copper and tin
c. manganese ore and uranium
d. an abundant supply of skilled labor

__6. The proportion of Africa covered by the Sahara Desert is about
a. 5% c. 65%
b. 33% d. 80%

__7. The term used to describe the Union of South Africa's racial policy is
a. multi-racial c. apartheid
b. colonial d. mixed

__8. All of the following appear to be major objectives of the new nations of Africa, *except*
a. desire to be treated as equals
b. freedom to develop their own form of political life
c. desire to improve economic conditions
d. establishment of Communist control

II. PETROLEUM

__1. The first oil well in the U.S. was drilled about
a. 25 years ago
b. 50 years ago
c. 75 years ago
d. 100 years ago

__2. Before the first oil well was drilled, most oil was obtained from
a. cracks in the rocks below the earth's surface
b. surface springs
c. natural gas
d. sperm whales

__3. Petroleum is transported rapidly from oil field to refineries by
a. jet planes
b. railroad freight cars
c. pipelines
d. trucks and tankers

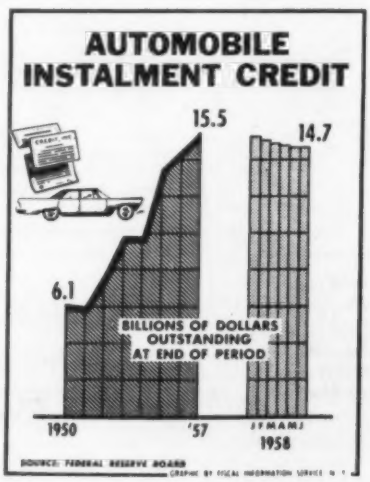
__4. The magnetometer, gravimeter, and seismograph are all scientific instruments used in helping
a. the oil prospector to locate oil-bearing rock
b. to determine the intensity of earthquakes
c. to measure radioactivity
d. to "crack" petroleum

__5. A major use of natural gas is in
a. heating homes
b. manufacturing synthetic tires
c. lubricating moving parts of machinery
d. generating electric power

III. READING A GRAPH

On the line to the left of each of the following statements, place a "T" if it is *true*, an "F" if it is *false*, and "NS" if there is *not sufficient* information in the graph on which to base a conclusion.

__1. In 1950 automobile instalment credit was $6.1 billion.



__2. Between 1951 and 1953 automobile instalment credit increased.

__3. Between 1950 and 1957 automobile instalment credit increased more than 300%.

__4. During the period covered in the graph, the peak of automobile instalment credit was reached in June 1958.

__5. Automobile instalment credit increases during periods of full employment and decreases in periods of recession, as evidenced by the decline in the 1957-58 period.

IV. NUCLEAR WEAPONS

On the line to the left of each of the following statements place an "F" if it is an argument in *favor* of prohibiting by international agreement the further development of nuclear weapons and an "A" if it is an argument *against* it.

__1. Continuous testing can reduce dangers of radioactive fallout.

__2. Monstrous weapons of destruction are already in production.

__3. Huge stockpiles of nuclear weapons are in the hands of both Russia and the U.S.

__4. The Soviet Union has violated almost all of the international agreements which it has made.

V. MICHAEL FARADAY

Read the following paragraph. On the line after each number listed below, write *correct* if the italicized word in the paragraph is correct and substitute the correct word if the italicized word is incorrect.

Michael Faraday was an (1) *18th-century* (2) *French* scientist who is famous for his discovery of (3) *electrical induction*. He is also the inventor of the (4) *generator* and (5) *incandescent bulb*.

1. _____
2. _____
3. _____
4. _____
5. _____

WORDS OF THE WEEK

Apartheid (ä.pärt'hāt)
Bantu (bän'tōō)
Ethiopia (ē.thĭ.ō'pĭ.ä)
Gamal Abdel Nasser (gä.mäl ăb.dĕl nä'sĕr)
Ghana (gä'nä)
Guinea (gĭn'ĭ)
Ibrahim Abboud (ĭb.rä.hĭm' ä.boud')
Kwame Nkrumah (quä'mĕ ncrōō'má)
Nigeria (nī.jēr'ĭ.ä)
Rhodesia (rō.dē'zhä)
Sierra Leone (sĭ.ĕr'ä lē.ōn')
Somalia (sō.mä'lē.ä)
Tanganyika (tăn.găn.yē'ká)

Every bright face is clearly lighted with Blue Dot's superior light dispersion and reach

Sylvania *BLUE DOT* light is always right!

Precision-made Sylvania Blue Dot Flashbulbs deliver the exact amount of light you need... at the precise time you need it

● The best-planned shot will turn out mediocre, or worse, if your flashbulb fails to deliver the exact amount of light you want at the precise moment you want it.

That's why professionals insist on Sylvania Blue Dots, the flashbulb that does the lighting job planned for it.

Famous Sylvania dependability is the result of the highest possible standards of manufacture, testing and inspection.

Over 90% foil dispersion within each Sylvania flashbulb gives you unmatched light uniformity and reach.

The quick-break filament, pioneered by Sylvania, gives precise peaking every time.

Three rigid tests are given all bulbs during production. One test puts each bulb through an electronic "glow" trial run.

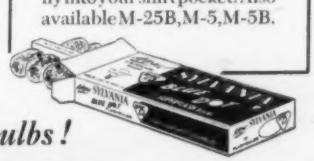
100% final inspection is given every bulb before leaving the factory. And, of course, the Blue Dot itself gives you a personal freshness check of each bulb.

Use dependable Sylvania flashbulbs. Sylvania offers you the only complete line of flashbulbs. *There's a Blue Dot for every lighting problem.*

Zirconium-filled to give the picture-taking light of bulbs 4 times larger

SYLVANIA M-25

Same size and base as the M-2, these power-packed bulbs let you stop down for greater depth of field—or shoot faster at wider apertures. A pack (12) slips easily into your shirt pocket. Also available M-25B, M-5, M-5B.



SYLVANIA *outsells all other brands of flashbulbs!*

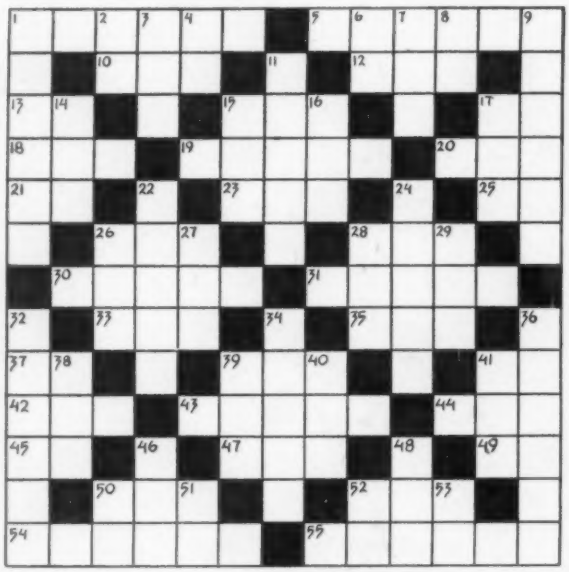
SYLVANIA LIGHTING PRODUCTS, DIVISION OF SYLVANIA ELECTRIC PRODUCTS Inc., 1740 Broadway, New York 19, N. Y.

People and Places

By Sue Milburn, A. L. Brown Senior High School, Kannapolis, N. C.

★ Starred words refer to famous people and places

Students are invited to submit original crossword puzzles for publication in *Scholastic Magazines*. Each puzzle should be built around one subject, which may be drawn from History, Art, Science, or any other field of knowledge. Maximum about 50 words, of which at least 10 must be related to the theme. For each puzzle published we will pay $10. Entries must include puzzle design, definitions, answers on separate sheets, design with answers filled in, and statement by student that the puzzle is original and his own work. Keep a copy as puzzles cannot be returned. Give name, address, school, and grade. Address Puzzle Editor, Scholastic Magazines, 33 West 42nd Street, New York 36, N. Y. Answers to this week's puzzle in next issue.



ACROSS

° 1. Calamity Jane is buried here, South _____.
° 5. City on the west coast of India.
°10. Chinese Red leader, _____ Tse-tung.
°12. Delaware (*abbr.*).
13. Homonym for *know*.
15. Strauss's operetta, *Die Fledermaus*, . means "The _____."
17. Thoron (*chemical symbol*).
°18. Eighth President of the U. S., Martin _____ Buren.
°19. Divided country west of Japan.
20. Tibetan ox.
21. Caesar's last word, "_____ tu Brute?"
23. Find the sum of.
25. Hamlet's "to _____, or not to _____."
26. Move slowly.
28. To and _____.
°30. Paris is located on this river.
°31. Smallest state in area, _____ Island.
33. African antelope.
35. Used to join words.
37. In printing, half an em.
39. Coniferous tree, the Douglas _____.
°41. Empire State of the South (*abbr.*).
42. Large container for liquids.
°43. Dr. Wernher von _____ developed the Jupiter-C rocket.
44. Division of geological time.
45. Month after July (*abbr.*).
47. Amount (*abbr.*).
49. Anglo-Saxon (*abbr.*).
50. A boy.
52. Novel by Stephen Crane, *The* _____ *Badge of Courage*.
°54. The 49th state.
°55. Large city in East Texas.

DOWN

° 1. The "Mile High City."
° 2. German writer responsible for communism (*initials*).
3. Hardwood tree.
4. Homonym for *two*.
6. Officer of the Day (*abbr.*).
7. Male humans.
° 8. He starred in *Trapeze* (*initials*).
° 9. A Northerner is nicknamed this.
°11. Famous festival in New Orleans, _____ Gras.
14. Grain used for breakfast cereal.
15. Snake that crushes its prey.
°16. Leader of the "Rough Riders" (*nickname*).
17. Flap on a pocket.
°22. Its capital is Augusta.
°24. A borough in New York City.
26. Lower limb of the body.
27. Same as No. 33 across.
28. Federal Housing Administration (*abbr.*).
29. Strange.
°32. State with the smallest population.
°34. Winter resort in Florida.
°36. The Sunflower State.
38. Irritate with constant fault finding.
°39. Italian painter _____ Angelico.
40. Track worn by wheels.
°41. Portuguese possession in India.
°46. City in Nevada, _____ Vegas.
48. Snake-like fish.
°50. The Pelican State (*abbr.*).
51. Disbursing Clerk, U. S. Navy (*abbr.*).
52. Egyptian sun god.
°53. He pitched a no-hit game in the 1956 World Series (*initials*).

Nuclear Weapons

(Continued from page 9)

from *natural* radiation (cosmic rays, radioactivity in rocks or the soil) during the first 30 years of his life!

Dr. Willard Libby of the AEC puts it this way: The threat to growing children is at present about the same as from "the additional dosage that a resident at sea level would receive from cosmic rays if he moved from a beach to the top of a hill a hundred feet high."

Or, put another way by Dr. Libby: A person moving into a concrete-block house in certain countries may get up to 100 times as much additional radiation from *naturally* radioactive elements in the concrete as he gets from present fallout.

In other words, radiation from continued nuclear development would affect future genes *less* than the natural radiation we get today from medical X-rays, television, radium watch dials, cosmic rays, etc.

3. Continued tests are necessary to provide information that can benefit the future of mankind.

Dr. Edward Teller, "father" of the H-bomb, said earlier this year that the principal purpose of continued bomb tests "is not . . . to make citybusters more horrible" but to create tactical weapons and develop "clean" bombs—that is, H-bombs with little or no fatal fallout of strontium-90 or cesium-137.

Dr. Teller's view point has been accepted by the AEC as its official position. The U. S. Defense Department agrees. Gen. Nathan Twining, chairman of the Joint Chiefs of Staff, says: "Only by continuous testing can improvements be made which will minimize the adverse affects from fallout, radiation, and other factors on *non-military* areas adjacent to targets and, in fact, on the peoples of the world."

Without further development, we could not develop a "clean" bomb for peaceful uses such as mining and engineering. In the future, "clean" bombs may be used to blast out harbors or to deepen river channels, for example.

Nuclear research may also hold the key to such diseases as cancer. And the development of nuclear power will enable industry to mushroom in many remote regions.

Our attention has been so fixed on the destructive aspects of the atom that we have overlooked many of its great benefits—benefits we can gain only from further development and testing.

Humanity's best chance for survival hinges on the U. S. and its allies remaining strong in the face of the threat of Soviet conquest—and in continuing to develop the atom.

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Here's the *only* portable with so many major *office typewriter* features: 11-inch carriage (widest carriage, longest writing line on any portable!); 88-character *standard* keyboard; swift, sure, feather-light touch; printwork that's sharp and *distinctive.*

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$1.50
A WEEK
Terms payable monthly

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DIVISION OF SPERRY RAND CORPORATION

Boy dates Girl

By GAY HEAD

"IF WISHES were horses, beggars might ride"—and you'd be jet-propelled. You'd astonish your teachers and your parents by raising a wobbly "C" in chemistry to a positive "A." Instead of cheering with the crowd in the stands, you'd be on the field making the last-minute, game-winning touchdown. You'd sweep into the Christmas formal, looking beautiful and bewitching, and startle the stag line into making an unprecedented dash in your direction. "If only," you muse, "wishes came true."

Everyone has a private world of daydreams, where he or she can retreat and be the "bravest," the "prettiest," the "most popular," "most admired," or "most athletic." But don't let a world of make-believe keep you from being part of the real world. You may not be the star quarterback or the prom queen, but if you venture out of your daydreams, you'll find that the real world is just as exciting—and a lot more satisfying.

Q. I used to be fat, but last summer I went on a diet and lost a lot of weight. My friends tell me that I'm really attractive now. I'm even going to be a model in the home economics class' fashion show in our school. But I still don't have any dates, and none of the boys seem to notice me at all. What can I do?

A. The first step in "Operation: Cinderella" is successfully completed, and you know you look better without those extra pounds. Why no sudden change in your social status? You've changed your appearance—now you may have to change your attitude.

It's likely, when you were heavier, that you took it for granted that boys wouldn't be interested in you. You may have indulged in daydreams of being popular, but when one of the boys in your class appeared on the scene, you did an about-face and walked in the other direction. Perhaps, to conceal the fact that you were sensitive about your weight and lack of dates, you gave everyone the impression that you couldn't care less about boys, and the sarcastic comments you aimed at the male members of the class kept them at a safe distance. Maybe you always joked with the boys—but made them feel that you were a "buddy" and not a dateable damsel.

Take inventory and evaluate the attitude you've displayed toward the boys. If you've been sarcastic, you can let down your defenses and be pleasant. If you always retreat when boys come into view, stand your ground, armed with a smile and a friendly greeting. It may take you time to alter your attitude, but give it the same effort and attention you gave to resisting those butterscotch sundaes—and it should bring results.

Q. I'm a junior and everyone is always asking me what my career is going to be. I feel stupid saying that I don't know, but I don't have anything special in mind. Do you think I should make up my mind now? If so, what can I do to make a decision?

A. "Doctor, lawyer, merchant, chief"—it's no easy matter to decide on a career. When people ask you about your plans, they don't expect you to be eternally committed to your answer, but they expect you to be thinking. It's not too early to do some exploring in different fields and track down facts on what training is required for careers which appeal to you.

Think of your own abilities and interests, but don't restrict yourself too closely. As an explorer, you should leave yourself open to a wide range of possibilities. Selection comes later. For a jumping off point in your research, delve into fields that come to mind first. If you do well in math and biology, consider careers which require scientific training. The best career for you is one which gives you a chance to make the most of your abilities.

The library can hold the key to your future job as well as to your next history assignment. Both school and public libraries have books and pamphlets on various careers. Magazine articles on people who hold interesting jobs will provide clues for further research.

Talk with older people and consult your school vocational counselor. Then give yourself a preview of coming attractions. Line up an after-school job or summer employment in a field that interests you. Working as a copy boy in a newspaper office won't give you the chance to write, but it will give you an opportunity to see how a paper is run and to talk with newspapermen.

A Scholastic Magazines cartoon

"Er . . . what did you say, Ron? I'm afraid I was daydreaming."

Doing research now will help you in the choice of a college or a professional or vocational school. The future may seem a long way off—but it isn't too soon to begin peering in that direction.

Q. My brother is a year younger than I am and he gets all the honors in the family. He's a good student and athlete, and I'm not outstanding as either. What can you do when you're overshadowed by a younger brother?

A. Competition is natural between brothers and sisters. You want to be recognized and appreciated, but when one member of the family seems to merit all the praise and honors, you begin to feel neglected and unimportant.

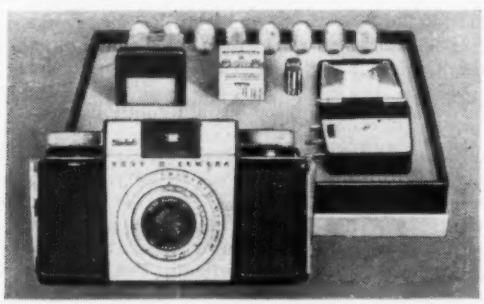
Don't let yourself become despondent and discouraged because you can't excel where John excels. An important part of growing up is learning to accept yourself and your own abilities and weaknesses. You may not have the same natural athletic ability that your brother has, but you have other talents. Find them and develop them. Don't spend your time wishing that you had John's abilities.

You may think that the cards are all stacked against you, but take another look. John appears to be the lucky one, but he may actually wish he had your easy, friendly manner with people, your sense of humor, your knack with machines and motors. Don't evaluate yourself by John's standards of achievement, and don't accuse yourself of being a failure because you can't do what another person can do. Set your own standards, in line with your abilities, and see how you measure up to them. You don't have to stand in anybody's shadow if you find your own place in the sun.

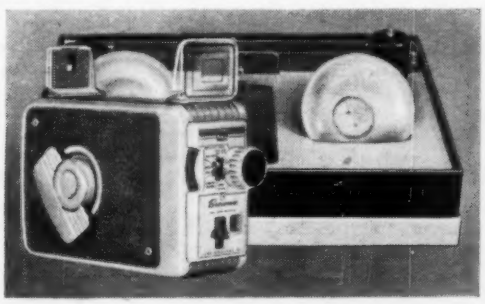
Gets three kinds of pictures—New Brownie Starflash Camera takes snapshots in color or black-and-white, and color slides. Built-in flasholder. Camera in red, white, blue or black. With bulbs, batteries, film, $9.95.

Kodak gifts say "Open me first!" ...and save all the fun in pictures!

Only Kodak gifts have the "Open me first" tag. The moment you open your Kodak gift, you can start taking pictures of all your Christmas fun!



Makes color slides, so easily—You make only one setting with the Kodak Pony II Camera, and a built-in guide tells how. No-thread loading. With pocket flasholder, bulbs, batteries, film, slide viewer, $39.95.



Takes 8mm color movies—indoors and out! Brownie Movie Camera, *f*/2.3, is as easy to use as a box camera. Make one setting . . . aim and shoot! No focusing. Kit, complete with light bar, cord and floodlamps, $39.95.

Many photo dealers offer terms as low as 10% down. Prices are list, include Federal Tax, are subject to change without notice.

See Kodak's "The Ed Sullivan Show" and "The Adventures of Ozzie and Harriet"

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

Kodak
TRADEMARK

Short Shots

Photo courtesy Phillips Chemical Co.

The hula hoop season goes on and on, and our real "hip" cheerleading squads are putting all they have into it. Going 'round and 'round in this picture are the hula hoopsters from A. B. Davis High in Mt. Vernon, N. Y.

THIS IS THE WEEK our colleges start rolling their hoops—and we don't mean the hula type, either. Looking into my lumpy crystal ball, I don't see anything rosy in view. It looks like an ordinary season.

Too bad, too. If both Wilt Chamberlain, the greatest player who ever lived (in my estimation), and Elgin Baylor, the Seattle wonder, hadn't quit school with another year left, it might have been a bang-up year.

That leaves but one superman on the college hardwood. I mean Oscar Robertson, of course. As a lowly sophomore last year, the "Wonderful O" from Cincinnati led the land both in points (984) and average (35.1 per game), and he ought to be even greater this season.

Probably the second best player in the country is Mississippi State's Bailey Howell. As a soph, the big center ranked ninth in the land with 25.9 point average, and as a junior last year rated fourth with 27.8.

Behind Robertson and Howell in the battle for All-American honors are Jerry West, West Virginia play-maker de luxe; Tom Hawkins, Notre Dame jumping jack; Bob Boozer, Kansas State powerhouse; and John Green, Michigan State all-around whiz.

Outstanding sophs to keep an eye on include these former *Scholastic Magazines'* All-American H.S. stars: Bill Lickert (Kentucky), Tom Meschery (St. Mary's, California), Bob Nordham (St. Louis), Tony Jackson (St. John's, New York City), Larry Comley (Kansas State), Doug Moe (North Carolina), Al Butler (Niagara), and Lee Sager (Army).

And if you want to know where the six greatest high school stars of 1958 wound up, here you are: Jerry Lucas, Middletown (Ohio), to Ohio State; Sandy Pomerantz, University City H.S. (St. Louis), to Cincinnati; Mike McCoy, Fort Wayne (Ind.) South Side, to Northwestern; Billy McGill, Jefferson (Los Angeles), to Utah; Jackie Foley, Assumption Prep (Mass.), to Holy Cross; and Wayne Hightower Overbrook (Philadelphia), to Kansas.

▶Is there a high school in the land that can match Sewanhaka (N.Y.) High's sports record over the past 10 years? In that time, five of Sewanhaka's teams have copped 83 league, county, and sectional titles!

The record: baseball, 140-60; cross-country, 28-1; soccer, 108-5; lacrosse, 105-3; and track, 84-14. Over-all record: 465 victories against just 83 defeats for an 85 *per cent* winning average!

▶Our vote for the football coach who had to worry least over his players' eligibility last fall goes to Joe Lattera, freshman coach at Roslyn (N.Y.) High School. He fielded probably the *smartest* eleven of all time. No fewer than seven members of his unbeaten team entered school with averages of 90 or better in their studies!

Players averaging 90 or better included: ends Terry O'Hara and Ronnie Singer, tackle Steve Stelzer, and the entire backfield—quarterback Richie Hiller, halfbacks Dex Jeffers and Eric Brondfield, and fullback Mickey Targoff. Geometry, anyone?

▶Any All-American team picked for courage would have to include LeRoy Baer, guard on the crack Carlisle (Pa.) H. S. eleven. LeRoy blocks and tackles with the best *though he has no left arm and right hand!* An accident several years ago made him a double amputee, but it never put him down. In addition to starring on the gridiron, he's head of his school's student council. That's what I call a real champ!

▶NOW HEAR THIS, all you basketball players: Would you like to own a book on all the ABC's of the game? That describes in words, drawings, and diagrams all the finer points of shooting, passing, individual offense and defense, team offense and defense? That's guaranteed to sharpen all the tools you need for a winning game?

Then run, do not walk, to your nearest English teacher. Available through him or her is the Teen-Age Book Club selection, *How to Star in Basketball*, written by that great sports editor, Herman L. Masin. Yep, that's me!

Everything I've learned through years of playing, coaching, and observing is jam-packed into these 64 pages. Every tip has been time-tested by famous coaches. Every wonderful drawing is based on the form of great stars.

I honestly believe it's the best tip book ever to see print. And it's yours for just two bits (25¢). If your English teacher doesn't handle the Teen Age Book Club orders, then check around and find the teacher who does.

HERMAN L. MASIN, *Sports Editor*

Following the FILMS

✓✓✓✓Tops, don't miss. ✓✓✓Good. ✓✓Fair. ✓Save your money.

✓✓✓✓**THE LAST HURRAH** (Columbia. Produced and directed by John Ford.)

Spencer Tracy gives a magnificent performance as Frank Skeffington, the aging mayor of a New England city, who invites his nephew (Jeffrey Hunter) to see what his last political campaign –his "last hurrah"–is like. As a picture of old-time American politics, it may not be very accurate, but it's vastly amusing. And if Skeffington is a scamp and not entirely honest, he is lovable. The film portrays him as a sort of modern Robin Hood who uses the city's money to help the poor–and incidentally to win votes. Under John Ford's skillful direction, it shows Skeffington's warmth and trickery and Irish blarney. This movie is well-made and expertly acted.

✓✓✓**THE ROOTS OF HEAVEN** (20th Century-Fox. Produced by Darryl F. Zanuck. Directed by John Huston.)

Romain Gary's novel, about an idealist who is determined to stop the killing of elephants, has been made into a handsome movie. Beautifully photographed in color in French Equatorial Africa, it has Trevor Howard in the lead role as the zealot who fails to get the signature of the community leaders on his petition to save the large (and, he thinks, noble) beasts. With his disciples (impressively played by Errol Flynn, Juliette Greco, Fredrich Ledebur and others) he wages his own kind of war on the ruthless hunters and ivory poachers.

The film's ideas are fascinating: Man needs all the friends on this planet he can find; if you poison the roots of heaven the whole structure falls. Unfortunately the film's action and execution are not as exciting as its themes. It is, however, good to look at and has an outstanding cast.

–PHILIP T. HARTUNG

MOVIE CHECK LIST

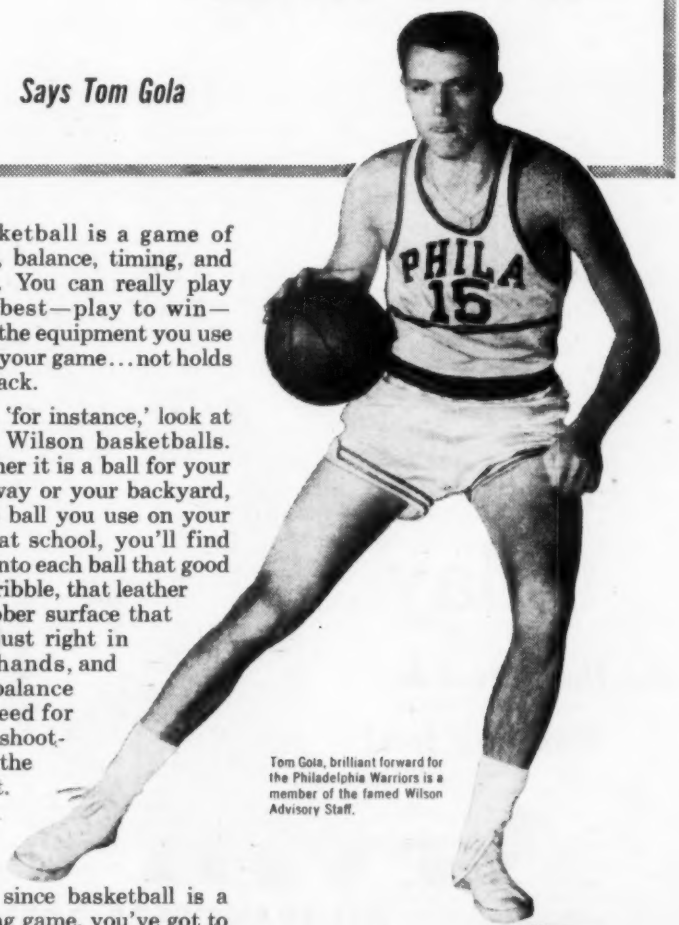
✓✓✓✓Tops, don't miss. ✓✓✓Good. ✓✓Fair. ✓Save your money.

Drama—(D); Comedy—(C); Musical—(M); Documentary—(Y); Animated Cartoon—(A); Western—(W).

✓✓✓✓A Night to Remember (D); The Big Country (W); White Wilderness (Y), Old Man and the Sea (D).
✓✓✓Houseboat (C); Barbarian and the Geisha (D); The Hunters (D).
✓✓tom thumb (M); Crawling Eye (D).
✓Blood of the Vampire (D).

"YOU PLAY TO WIN... SO USE WILSON"

Says Tom Gola



Tom Gola, brilliant forward for the Philadelphia Warriors is a member of the famed Wilson Advisory Staff.

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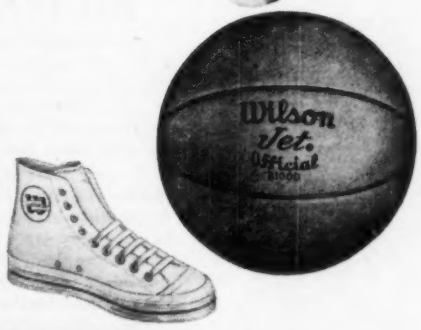

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Petroleum

(Continued from page 16)

Today, intricate scientific instruments help the oil prospector make the right strike. One instrument is the *magnetometer*. This device measures the intensity of the Earth's magnetic field. The magnetic field varies slightly all over the Earth, depending on what types of rock underlie the Earth's surface at each particular point.

Oil prospectors know the kind of magnetic waves given off by oil-bearing rock. The magnetometer helps them locate this type of rock. Sometimes, the magnetometer is carried about by jeep or pack animals. Other times, it is pulled behind an airplane.

Probing the Earth

Another oil prospecting instrument is the *gravimeter* (gravity meter). It works on the same principle as the magnetometer. Instead of measuring variations in magnetism, however, the gravimeter measures changes in the Earth's gravity. Just as various rocks affect the Earth's magnetic field differently, they also affect the Earth's gravitational field. Thus the gravimeter can locate oil-bearing rocks.

A third instrument is the *seismograph*. It tells the prospector the depth of underground rock layers. The seismograph was originally developed to pinpoint earthquakes, and measure the intensity of their shock waves. How does the oil prospector use it? He makes a miniature earthquake by exploding dynamite in a hole in the ground.

The explosion sends shock waves into the ground. These shock waves hit underground layers of rock, and bounce back to the surface. The seismograph measures the time it takes them to bounce back. Thus the prospector can determine the depth of any particular rock layer.

Even with the help of science, oil prospecting is still an expensive risk. It costs from $100,000 to $2,000,000 to drill an oil well. Dry wells have been drilled even in a proven oil field. Drilling a well in an unproved oil field is an even greater risk. This is called *wildcatting*. Nine out of 10 wildcat wells are dry.

Today, oil companies are probing deeper and deeper in quest of petroleum. Edwin Drake's oil well was only 69.5 feet deep. The average well is now about 4,000 feet deep. One well is down more than five miles. To tap new oil fields, some oil companies have sent their drillers to sea. Oil wells are now being drilled from rafts anchored on oceans and large lakes at depths up to 1,500 feet.

Hundredth Birthday

The petroleum industry also is seeking ways to conserve oil. An oil well is never pumped really dry. Thousands of gallons of petroleum always remain in the ground, trapped in tiny veins of rock. A century ago, up to 75 per cent of the oil in a pool could not be recovered. Thanks to recent research, up to 90 per cent of the oil in a pool will soon be recovered.

Oil drillers already are wringing thousands of gallons of oil out of rock veins. One way is to pump water into the well. Water pressure unlocks the trapped oil, forcing it into a pool. Some day, a tiny atomic bomb may be exploded in an "exhausted" well. The gigantic strength of the nuclear fist would squeeze out oil that cannot be recovered with present methods.

Next August, the petroleum industry will celebrate its one hundredth birthday. It has grown up to become one of the largest industries in America. Petroleum is a source of power and heat in millions of homes and factories. It makes life easier, more healthful, and more comfortable. It can transport people or goods around the block or around the world. For petroleum—lifeblood of American industry—is one of our most useful servants.

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On any kind of outing this Arvin All-Transistor Radio will win cheers from the crowd—it's mite-size but mighty in sound, with magnificent tone! One low-cost battery lasts many months; Arvin high-output transistors last practically forever. Choice of turquoise or black. Model 8576, $44.95. Earphone accessory and leather carrying case also available.

Other Arvin All-Transistor models $49.95 to $79.95; 3-way portables $31.95 to $39.95. All prices less batteries; slightly higher in far West and South. Send for illustrated folder. Dept. RC-812.

Arvin INDUSTRIES, Inc., COLUMBUS, IND.

Arvin also makes Phonographs, Electric Heaters, Car Heaters, Ironing Tables, Outdoor Grills, Leisure Furniture and Fans.

Words about Music

Popular

On a Rainy Afternoon (RCA Victor). This is Tony Perkins' second album in which he proves again he can handle a ballad like *I've Got Sand in My Shoes* or *Darn That Dream*. However, when he takes a whirl at jazz, even with an all-star combo to help, he strays from pay dirt. But Tony's fans can overlook this.

Mediterranean Cruise (Dot). Some nice travel music here for you stay-at-homes. Maestro Savino offers *Lovely to Look At, People Will Say We're in Love, Promenade in Monaco,* and other toasty tunes for these below-zero nights.

A Touch of Mexico (Epic). From South of the Border comes a gay, colorful disc of lively polkas and sentimental *sones*, clear trumpets and thumping guitars. Different Mexican bands are featured, but Los Guamuchilenos de Culiacan—naive and unpolished—will steal your heart away.

Jazz

On Campus with the Dukes of Dixieland (Audio-Fidelity). This is Vol. 8 for the Dukes, who stomp out two-beat arrangements of *Roll On, Tulane; Fight On, Ohio; The Whiffenpoof Song,* and other college classics. The boys blow up a grandstand of music-to-watch-the-Rose-Bowl-Game-by.

The Dave Brubeck Quartet in Europe (Columbia). Joe Morello (drums) and Paul Desmond (alto) offer the brightest passages in this album of musical foreign policy. *Wonderful Copenhagen* (recorded there) is tops, but Dave is repetitive on *Tangerine* and other numbers. The laurels for this one go to Desmond and Morello.

Classical

Discovering the Piano (Camden). Lorin Hollander is only 13, but his feeling for the piano is as expert as it is fresh. He performs 22 pieces by Chopin, Schubert, Beethoven, *et al,* and sets a worthy standard that any piano student could emulate. A desirable budget album for beginners.

Pick o' the Pops

New jazz 45's: Cozy Cole's *St. Louis Blues* (Mercury) and Satchmo's *I Love Jazz* (Decca) . . . Cozy's *Topsy II* still climbs . . . Now you know what a String Band is, if you heard *Philadelphia, U. S. A.* (Carlton) . . . *The Teen Commandments* (ABC-Par) are coming your way . . . And did you ever see a reindeer cha cha? Hernando Hopkins saw *Rudolph*. Too much! —Bob Sloan

New medicated acne stick

nips blemishes in the "bud"

Acts fast to stop pimples from "blooming" and spreading . . . conceals and helps heal pimples in all stages

Never again need you watch helplessly while a small blemish grows into a big ugly pimple. For now there's a new kind of medication that acts *fast* to heal and dry blemishes in their *bud* stage—or *any* stage. It's Sentor—the new, skin-toned acne stick that soothes and helps *heal* as it conceals.

Today's most effective treatment for pimples

From the very first time you dab it on, Sentor does *more* to help heal pimples than any other product you could buy before. Sentor Stick works so well—*so fast*—blemishes just seem to melt away.

Easy, convenient to use. Just a quick dab with Sentor Stick is all you need—nothing to get under your nails. No tell-tale medicinal odor.

Ask your own doctor. He knows this new *greaseless* formula is so effective and so *safe*. Try Sentor *Medicated* Acne Stick—you'll be so glad you did.

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4. **Combats re-infection**—combats the bacteria that make blemishes grow and spread.

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Talkative

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Dig

Late Show

Tourists in Yellowstone National Park stood watching the spectacular eruption of Old Faithful as she shot up her tower of steam right on schedule. One couple seemed especially impressed. "Gee," exclaimed the wife, "do they have this show at night, too?"

Quote

Sight Saver

Playwright Arthur Sheekman, walking along the street in Brewster, New York, where he was spending the summer, was moved by the sight of a seven-year-old girl solicitously leading her younger brother by the hand across the square. The boy's eyes were both tightly closed.

"What's the matter?" asked Sheekman sympathetically. "Can't the little fellow see?"

"Oh, he's all right," the little girl assured him. "We do this every Saturday when the sun's bright. That way, when we get inside the movies he can open his eyes and find us two seats right away."

E. E. Kenyon, American Weekly

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CAMERA Angles

MILLIONS of Christmas cards will soon be flooding the U. S. mails. Cards are a wonderful way to exchange greetings during the holiday season. They are a particularly wonderful way to say "hello" to people you don't see every day—friends from summer camp or friends who have moved out of town. Your card lets them know you're thinking of them during this joyous season.

Camera stores in most cities now offer personalized "photo cards." Perhaps you're already at work making your own in your Camera Club's darkroom. "Photo cards" can make a big hit with your friends and relatives, making the Christmas greeting so much more personal and meaningful.

But a word of warning: Remember that a Christmas card should fit the season and the person! *Don't,* for example, use a beach photo of you and your family if you're living in a climate where overcoats and snowshoes are the rule at Christmas time! Use an appropriate photo. Most important, use one which respects the meaning of Christmas itself.

If you don't have an appropriate picture, stock up on film and flashbulbs so that you can take a picture this Christmas for use as a card *next* year.

Christmas means traditional get-togethers for many families. Why not try making a Christmas Album? Record the happy goings-on with your camera—decorating the tree, wrapping and opening presents, going to church on Christmas morning, Christmas dinner. Such an Album will become a family treasure.

Camera Club News

Has your club received its free copy of our *Camera Club Bulletin* containing news and ideas for your club?

To get your free copies of the *Bulletin* (published four times a year), write your name and address on the back of a post card and mail to: Camera Bulletin, Scholastic Magazines, 33 W. 42nd St., New York 36, N. Y.

Regional Award Winner in 1958 Scholastic-Ansco Photography Awards was taken by Eric Franke, 16, Evanston Township (Ill.) High School.

Show of the Week: With Christmas just around the corner, CBS-TV will present a one-hour special musical version of *The Gift of the Magi*, O. Henry's tender story of a young married couple with no money at Christmas time. Richard Adler (who wrote the music for TV's *Little Women* earlier) has prepared the score for this show, to be seen Tuesday evening, Dec. 9. Sally Ann Howes and handsome Gordon MacRae will co-star.

► Part II of "Johnny Tremaine" will be on *Walt Disney Presents*, tonight, Dec. 5, on ABC-TV. The early days of the American Revolution will be dramatized. A unique play is scheduled on the *Schlitz Playhouse*, CBS-TV. Called "The Third Son," it stars Steve Forrest playing not one, but *three* different roles—three brothers (a gambler, a frontier marshal, and a farmer).

► "The Mountains of the Moon" are not up there, but down here, in the heart of Africa's Belgian Congo. *High Adventure with Lowell Thomas* (CBS-TV) shows them on Saturday, Dec. 6.

► December 7 is the 17th anniversary of Pearl Harbor and, like that earlier day, also falls on a Sunday this year. So far, however, no special TV observances are planned. The second part of "The Addicted—Criminal or Patient," dealing with drug addiction, will be on *The Twentieth Century* (CBS-TV). In the evening, Sid Caesar takes over Dinah Shore's *Chevy Show* on NBC-TV.

► But Dinah's fans won't be disappointed, for she and her daughter Missy will be guests on *The Danny Thomas Show* (CBS-TV), Monday, Dec. 8. Danny and Dinah are good friends, as well as top-notch entertainers. Over on ABC-TV, it's "Waltz Night" for *The Voice of Firestone* viewers. John Raitt (remember him in *Pajama Game?*) is guest soloist. Also on ABC-TV, *Bold Journey* will show films of a young schoolteacher who climbed Mt. Kilimanjaro last summer.

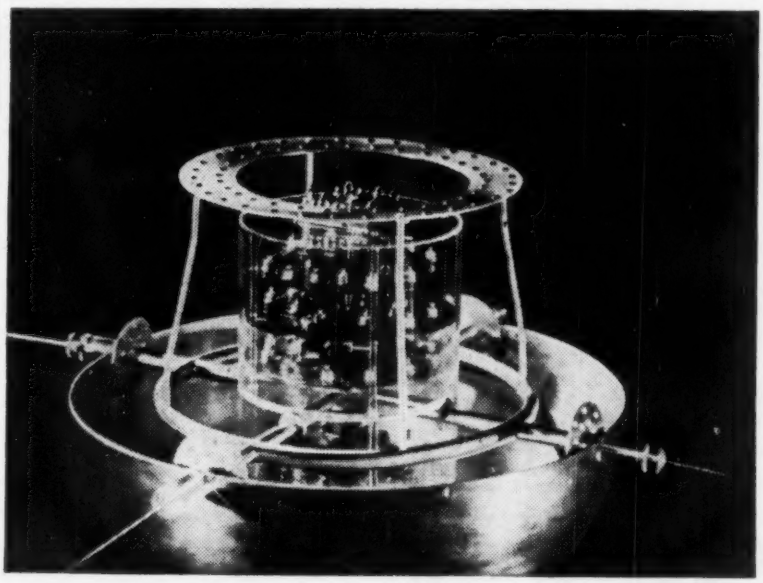
Charles Laughton reads for Ernie.

► Tuesday night, Dec. 9, is variety night: *Eddie Fisher* has invited Dean Martin to drop in (NBC-TV), while *Garry Moore* welcomes Walter Pidgeon, and Errol Garner (CBS-TV).

► Something unusual takes place on *The Tennessee Ernie Ford Show*, Thursday, Dec. 11 (CBS-TV). The famous English actor, Charles Laughton, will be Ernie's guest. Mr. Laughton has made a fine art out of reading poetry and short stories before audiences all around the country. He's expected to do the same as T. Ernie's guest.

All in all, this seems like a nice pre-Christmas week. Check your local papers for time and channel for each show—and enjoy yourselves.

—Dick Kleiner



The Heart of a Satellite

An astonishing amount of equipment can be put in an artificial earth satellite. In the Vanguard, the equipment is all in the core shown in the picture above.

There are devices to measure the temperatures of outer space, for example, and meteorite density, or cosmic ray activity. Then there is a small but powerful radio equipped with transistors, and batteries to power it.

Miniaturization—a new word—is why small satellites can do so much. For hundreds of pounds of equipment must be reduced in size, or "miniaturized," so that they weigh only a few pounds, and take up little room.

The transistor, a Bell System invention, is a good example of this. Scarcely larger than a pea, it can do the job of a radio tube fifty times larger. It needs so little power that very small batteries can be used. And it's rugged and durable.

The reasons why transistors are used in satellites are partly why they're used in more and more new telephone equipment. Small as they are, they have a big future . . . in the heart of many a future satellite, and in the heart of tomorrow's better telephone service.

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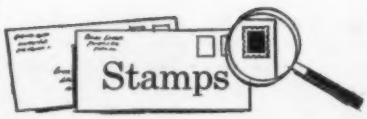

Holiday Gift Guide

This 15¢ stamp picturing John Jay, first Chief Justice of the United States, will be issued on December 12. Jay served in the Supreme Court from 1789 to 1795. For first-day "gift" covers (send one to a friend) send addressed envelopes to: Postmaster, Washington 13, D. C. Include a money order to pay for the stamps you order. You may buy as many as 10 first-day covers.

Supreme Court Recording. Stamp clubs will enjoy this interview with Associate Justice William O. Douglas. He discusses the Court's role in American life, in an interview with Howard Langer, managing editor of *Scholastic Teacher*. Special school price for this 10-inch 33 1/3 rpm record is $3.85. Order from: Folkways Records, 117 West 46th Street, New York 36, N. Y.

Tourist Packet. It contains 110 stamps from 110 different distant lands such as Mozambique, Somaliland, Angola, Malaya. The stamps, used and mint (unused), include dozens of commemorative pictorials. Price: $1. Order from: Stamp and Coin Dept., L. Bamberger and Co., Newark 1, N. J.

"U. N.—1958." This is a packet of eight mint U. N. commemoratives issued this year. You receive both denominations of each of these stamps: Human Rights Day, U. N. Day, International Atomic Energy, Central Hall. Also included is the popular mint 8¢ Human Rights Day stamp of 1956. Price of U. N. packet: $1. Order from: F.U.N. Cover Service, Box 34, Whitestone 57, New York.

Specialty Album. Here's a handy 40-page album, 8½ inches by 5½ inches, to hold duplicates for trading or to display a topical collection. The album comes with 50 used stamps. Price: 25¢. Order from: Pot O' Gold Co., Litchfield, Conn.

Thor Stamp Press. It's a streamlined desk tool for removing a stamp's creases or curled edges. You put the stamp in the press, give the handle a few turns, and "iron" your stamp! This aluminum press, produced by White Ace, comes in a gift box. Price: $6.95. Order from: Washington Stamp Exchange, Newark 2, N. J.

—TONY SIMON

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Read This First

Our readers are advised to read an advertisement carefully before sending for stamps. If the advertisement mentions "approvals," the stamp dealer will send you in addition to any free stamps, or stamps you pay for in advance, a selection of other stamps known as "approvals." Each of these "approval" stamps has a price clearly marked. If you keep any of the "approval" stamps you must pay for them and return the ones you do not wish to buy. When writing to stamp advertisers be sure to write your name and address on your letter and on the upper left-hand corner of the envelope. If you do not intend to buy any of the "approval" stamps return them promptly, being careful to write your name and address in the upper left-hand corner of the envelope in which you return the stamps. If you are a beginner in stamp collecting, you should ask your parents' advice before sending for stamps. If any reader feels that a stamp dealer who advertises on this page has not lived up to the terms as advertised, the reader should write to the advertiser about it. Wait at least two weeks for an answer. If necessary the reader may appeal to the Executive Editor of *Scholastic Magazines*, 33 W. 42nd St., New York 36, N. Y.

STAMPS

103 FOREIGN STAMPS including Pakistan, Scandinavia, Newfoundland, Australia, Africa, Russia, Japan, China, Oddities, Rarities. ONLY WITH APPROVALS. Enclose 10¢ for handling. LINCOLN STAMP COMPANY, St. Catharine's 362, Ontario.

WEIRD DIAMOND SHAPE COFFEE STAMPS
Lovely Flower Triangle! First American big commemorative, Greenland, Idol Dancer, etc. Free with approvals. Capital Stamp Co., Ferrysburg 7, Mich.

TWO $5.00 U. S. Postage Stamps Free to approval buyers. Send dime for postage, details.
IRWIN STAMP CO.
Box 11-72 Brooklyn, N. Y.

TERRIFIC STAMP BARGAIN!
Israel—Iceland—Vatican Assortment—plus exotic triangle set—Also fabulous British Colonial Accumulation—Plus large stamp book—All four offers free—Send 10¢ to cover postage. Empire Stamp Corp., Dept. 8B, Toronto, Canada

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25 for $1
60 for $2
Send Photo & Money to
U. S. PHOTO CO., Dept. C, Box 73, Newark, N. J.

LAUGHS

Teacher's Pet?

John was an inveterate talker, especially in class. Miss Smith, the eighth grade teacher, tried calling him down in class but that did no good. Finally she decided on a policy of making him stay after school for extra study each time she caught him talking in her class.

One day, after this policy had kept him after school almost every day for several weeks, she caught him again. "Well, John, you'll just have to stay after school."

"Oh, that's all right," John assured her. "Half the school already thinks we're 'going steady.'"

Complete Service

A young man went to his older brother for advice. "Last night," he said, "I had a date with Edna. I took her to dinner, and then to a stage show. After that we went to a very expensive night club. Do you think I should have kissed her good night?"

"Why?" deadpanned the older brother. "You'd done enough for her already."

Betty Curley, Liberty

Secret Weapon

The late Frank Thomas, Notre Dame star and later a famed coach, greatly admired fighting spirit. Thus, one of his favorite stories was about the never-give-up coach of a small college team whose charges were being pummeled by a powerful big-college opponent.

The coach did everything except insert himself in the lineup. Racing up and down the sidelines, exhorting the players, he was warned time and again by tolerant officials about illegal coaching. He used all his meager substitute personnel. When the game ended, he didn't have a man on the bench eligible for play.

As he walked fuming off the field behind his dog-tired players, muttering, "We should've won it," the team's manager trotted up and said. "Terrible, wasn't it, coach? 76 to 0."

The coach exploded, "76 to 0? I lost count of the score. Why didn't you tell me it was that bad?"

Replied the manager, "What would have been the use?"

"Why, man," snapped the coach, "I'd have done something."

The Wall Street Journal

Answer to Nov. 21st Crossword Puzzle

G	E	O	R	G	E	■	V	I	C	T	O	R
L	■	T	A	B	■	C	■	R	O	D	■	O
O	N	■	G	■	A	H	A	■	D	■	A	B
R	A	M	■	A	P	R	I	L	■	O	R	E
I	M	■	S	■	T	I	M	■	R	■	E	R
A	■	G	U	S	■	S	■	H	O	W	■	T
■	J	E	S	S	E	■	P	A	G	A	N	■
C	■	M	A	E	■	H	■	M	E	N	■	S
A	M	■	N	■	L	E	G	■	R	■	N	A
R	A	Y	■	A	B	N	E	R	■	S	A	M
M	Y	■	R	■	A	R	T	■	A	■	N	S
E	■	D	A	Y	■	Y	■	T	I	N	■	O
N	O	R	M	A	N	■	E	I	L	E	E	N

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ARIZONA (State) Feb. 2-7
Valley National Bank and Phoenix College

CALIFORNIA (Southern) Jan. 9-17
Bullock's, Los Angeles

CALIFORNIA (Northwestern) Feb. 2-7
The Emporium, San Francisco

CALIFORNIA (Northeast-Central) Jan. 26-31
Breuner's, Sacramento

COLORADO (State) Feb. 2-7
May-D&F, Denver

CONNECTICUT (State) Jan. 19-25
The Hartford Courant

ILLINOIS (Chicago) to be announced
Wieboldt Stores, Inc., Chicago

ILLINOIS (Northeastern) Feb. 2-7
Wieboldt's, Evanston

ILLINOIS (Oak Park Area) Feb. 2-7
Wieboldt's, Oak Park

INDIANA (Central) Jan. 30-Feb. 5
L. S. Ayres & Co., Indianapolis and the Indianapolis Star

INDIANA (Northeastern) and Northwestern OHIO Jan. 26-31
WANE, WANE-TV, Fort Wayne

IOWA (State) Feb. 2-6
Younkers, Des Moines

MASSACHUSETTS (State) Jan. 14-21
The Boston Globe

MICHIGAN (Southeastern) Jan. 26-31
Crowley's, Detroit, and Detroit News

MISSOURI (Western) and four adjacent KANSAS counties Feb. 9-14
Emery, Bird, Thayer, Kansas City

MISSOURI (Eastern) and two adjacent ILLINOIS counties Jan. 29-31
Stix, Baer & Fuller, St. Louis

NEW YORK (North Central) Jan. 26-31
E. W. Edwards & Son, Syracuse

NEW YORK (Central Western) Jan. 26-31
Sibley, Lindsay & Curr, Rochester

NORTH CAROLINA (Piedmont Section) and VIRGINIA (Piedmont Section) Jan. 11-17
WFMY-TV, Greensboro

NORTH CAROLINA (Eastern) Feb. 2-7
WNCT-TV, Greenville

OHIO (Northeastern Ohio Lake Area) Jan. 26-Feb. 5
The Halle Bros. Co., Cleveland

OHIO (Northeast Central) Jan. 26-31
The M. O'Neil Co., Akron

OHIO (Southern) and three adjacent KENTUCKY counties Jan. 5-10
The John Shillito Co., Cincinnati

OREGON (State) Jan. 26-31
The J. K. Gill Co., Portland

PENNSYLVANIA (Southeastern) and DELAWARE Feb. 2-7
Gimbels, Philadelphia

PENNSYLVANIA (Western) Feb. 2-7
Kaufmann's, Pittsburgh

TENNESSEE (Western), Northeastern ARKANSAS, Northern MISSISSIPPI Feb. 2-7
B. Lowenstein & Bros., Memphis

TEXAS (Southeastern) Feb. 9-14
Foley's, Houston

TEXAS (Northwestern) Jan. 26-30
Permian Basin Life Insurance Co. and Jane Phillips Sorority, Odessa

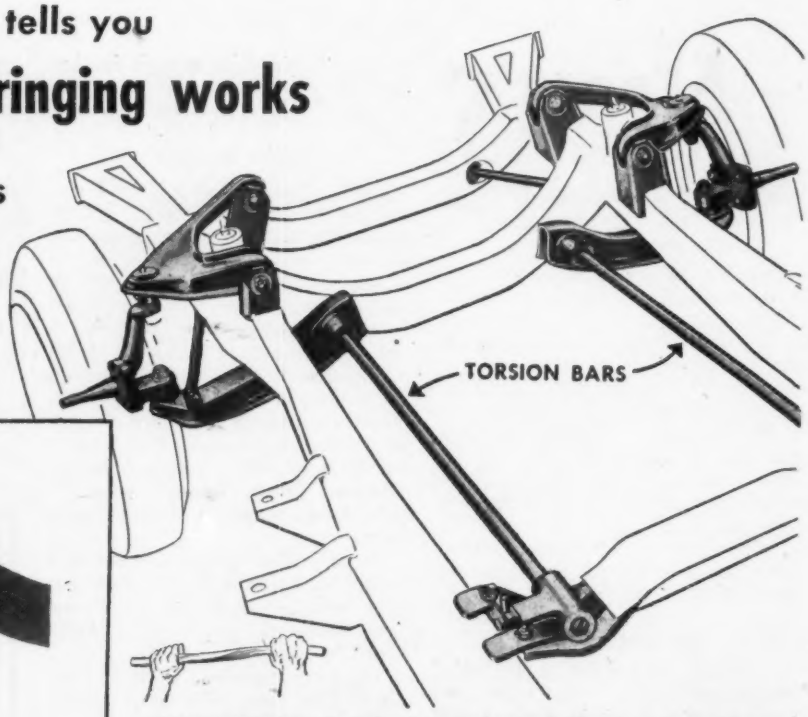
WASHINGTON (State) Feb. 2-7
Frederick & Nelson, Seattle

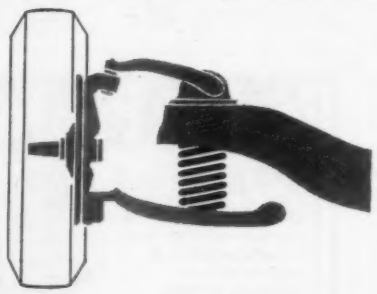
WISCONSIN (State) Feb. 9-14
Schuster's, Milwaukee

Chrysler Corporation tells you

How torsion springing works

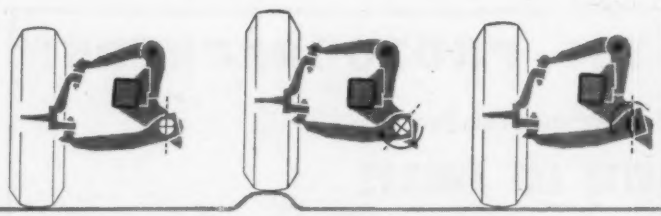
to make the 1959 cars of The *Forward* Look the finest driving cars in America





ORDINARY SPRINGING often gives squashy ride, is apt to rock on turns, lets car "bob its head" on quick stops, and "squat" on fast starts.

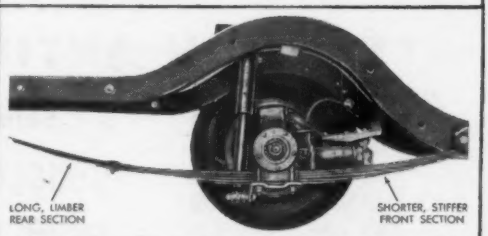
TORSION SPRINGING isn't hard to understand. Twist a piece of hose in your hands. Feel how it twists back. Torsion bars work like this —help give a remarkably smooth ride, free of rocking and bobbing. Only Chrysler Corporation cars have this new kind of ride—*Torsion-Aire* Ride—and at no extra cost!



HOW TORSION BARS IRON OUT BUMPS UP FRONT

Note position of torsion bar on level pavement. Then see how a bump raises the control arms, twisting the torsion bar. After hitting bump (third picture) bar "unwinds," helping hold the wheel on the road and keeping the car body level.

LEVELIZER SPRINGS IRON THEM OUT IN BACK



In back, fast-reacting steel leaf springs and Oriflow shock absorbers give the most comfort and control on the road. Springs are firm in front, limber in rear to smooth out the bumps. (Cars of The *Forward* Look also offer optional air units in the rear—to give you automatic leveling even with excessive rear-end load.)

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Scholastic TEACHER

Senior Scholastic

EDITION OF

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VOL. 73, NO. 12, DEC. 5, 1958

★ EDUCATION NEWS OF THE WEEK ★

Punch-Ben Roth

"I'll tell you why I'm failing history. I don't know what to remember. They keep changing the history books."

How Ivan Feels

It's real tough being a pupil in Russia. (*See above.*) Not only does poor Ivan have to keep up with the current party line—he must also follow a rigid set of 20 "commandments," or else face expulsion. The "commandments" include the following:

▶Pupils must come to school washed, combed, and dressed neatly.

▶Pupils must rise and stand erect when a teacher enters or leaves the classroom.

▶They must obey teachers without question. No talking without permission.

▶They must show respect for teachers outside the school by bowing to them and removing their hats.

▶They must sit erect during the classroom period without either slouching in their seats or leaning on their elbows. They must study diligently, and be punctual in attendance.

For two days, last month, a class of Darien (Conn.) sixth graders decided to abide by all of Ivan's rules, just to see what it would be like. After the ordeal was over, members of John C. Mulrain's class at Darien's Hindley School reported on the experiment:

Ruth Chapman: "As I see it, the Russian children are very well trained in the main activities, but they don't seem ready to cope with things that take quick thinking as well as quick acting. I also think they are taught quite a bit of Communist propaganda. They seem to be very ambitious, studious, and hardworking."

Nancy Hepp: "I am sure that a Russian child has no trouble at all being polite. After two days of being polite I did these things almost automatically. So if a Russian child does this all year round, he must do it without knowing he's doing it."

Linda Cenami: "We did it so we could learn more about the Russians. We wouldn't learn half as much as we did if we all wrote reports, read out of books, telling the class about your subject on Russia, and having the teacher read to you which is very boring after awhile."

Gup Magnuson: "(Russian pupils) are told what they are going to be when they grow up. They have tests to see what they're fit for, such as if they're dumb, they will probably be shipped to the mines."

All the pupils agreed that they'd like similar projects on other countries.

Dorothy Canfield Fisher

An irreplaceable friend of youth, of American education, and of *Scholastic Magazines* is gone. Dorothy Canfield Fisher, distinguished novelist, writer, and educator, died last month at her home in Arlington, Vermont, aged 79.

Daughter of a university president (James H. Canfield, Kansas, Ohio State), she earned a Ph.D. degree at Columbia, studied at the Sorbonne. Beginning in 1904, she launched a stream of novels and short stories noteworthy for their quiet realism and grasp of character, including *The Squirrel Cage*, *The Bent Twig*, *Understood Betsy*, *The Brimming Cup*, *Rough Hewn*, *The Deepening Stream*, and *Seasoned Timber*. Many of these, and other prose works, dealt with varied facets of education, child psychology, family and welfare problems. Her *Vermont Tradition* summed up her pride in the state where her ancestors had settled and she had lived for over 40 years, since her marriage to John R. Fisher.

Mrs. Fisher did notable national service in France during World War I. For 25 years she was a member of the editorial board of the Book of the Month Club. She served as president of the American Association of Adult Education, and was the first woman elected to the Vermont Board of Education.

She was a member of the original national advisory board of *Scholastic Mag-*

Dorothy Canfield Fisher

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azines. At least half a dozen of her stories have been reprinted in *Senior Scholastic* and *Literary Cavalcade*, together with numerous original essays, letters, plays, and personal reminiscenses. For 20 years she served as a judge in the annual *Scholastic* Writing Awards, and wrote the foreword to *Young Voices* (1945), our anthology of best student writing. She will be remembered with affection by the editors of *Scholastic* as a great American and a warmly human personality who never failed to respond generously to any call for service. —K.M.G.

Library Act Scores

The Federal Library Services Act is only three years old, but it has already proved a marked success.

A report presented at a meeting of state librarians in Washington discloses that more than 300 rural counties with a total population of more than 5,500,000 are receiving new or improved library services under the Federal-state program. (Neediest states receive two Federal dollars for every one they put up; the richest put up two to get one.)

Even more impressive than the statistics were some of the first-hand success stories told by the librarians. In Alaska, planes and mail boats are serving as "bookmobiles" to bring books to areas that cannot be reached by auto. Once, when a plane dropped its load of books in the river, book-hungry persons on the shore recovered the package and dried the contents so quickly that not a single volume was seriously damaged.

The Library Services Act is popular in Congress as well. Last year, President Eisenhower requested $3,000,000 to continue the program. Congress doubled the appropriation.

Meanwhile, a survey made by the NEA's Research Division and the American Association of School Librarians has found that the school library is "now an integral part of the American secondary school in urban centers."

Some of the survey's findings:

►Secondary school teachers are almost unanimous in their belief that learning how to use various library resources should be a fundamental part of the education of all students.

►A majority of the schools have well-organized programs for developing student skills in the use of the library.

►Almost three-fourths of the 1,500 teachers surveyed said they make either frequent or occasional class assignments that involve use of the library. But usage varies greatly with the subjects. Ninety-eight per cent of the English teachers required students to use the library to some extent; so did 95 per cent of the social studies teachers and 86 per cent of the science

teachers. But only half of the math teachers and about 60 per cent of the business education teachers did so.

▶Well over one-third of the teachers rated the available library materials in their subject areas as fair or poor. Only one in five considered them excellent and 39 per cent rated them good. Highest ratings were given by English, music, art, social studies and science teachers.

Truly Ruly

If a student tells you that you are *mat adornblem*, take it as a compliment. It means you are "rather attractive."

A new vocabulary—called "ruly English" to distinguish it from everyday "unruly English"—has been devised by a United States Patent Office engineer, Simon N. Newman.

The reason for "ruly" is that every time a new idea is submitted for approval, the government office must check about 7,000,000 patents on file to determine whether there is already anything like it. To ease the monumental task, the office uses a modern computer, which receives data on a magnetic tape.

But the computer has found, as have many language students and others, that English can at times be pretty ambiguous. For example, Newman uncovered 30 uses alone for "of" and 43 for "to." "Through" had 13 meanings, ranging from a "relation through marriage" to "pollen floating through air."

Newman's "ruly" vocabulary—which contains such words as "resilrig" (from resilience and rigidity)—might not go over with English scholars, but so far there have been no reported complaints from the computer.

Integration News

Latest reports on school integration:

▶Two leading groups of clergymen have issued appeals for an end to racial segregation in the schools. The appeals, which were contained in separate statements, were made by the Roman Catholic Bishops of the United States and the Council of Bishops of the Methodist Church. The Roman Catholic prelates called for decisive but prudent action by "responsible and sober-minded Americans of all religious faiths, in all areas of our lands." The Methodist statement urged "all our people to accept the ruling of the courts in good faith."

▶Residents of Norfolk, Va., went to the polls to vote on whether they want the city's secondary schools to reopen on an integrated basis. The verdict: 12,340 to 8,712 against reopening the schools.

The actual question posed by the referendum was: "Shall the Council of the City of Norfolk, pursuant to state

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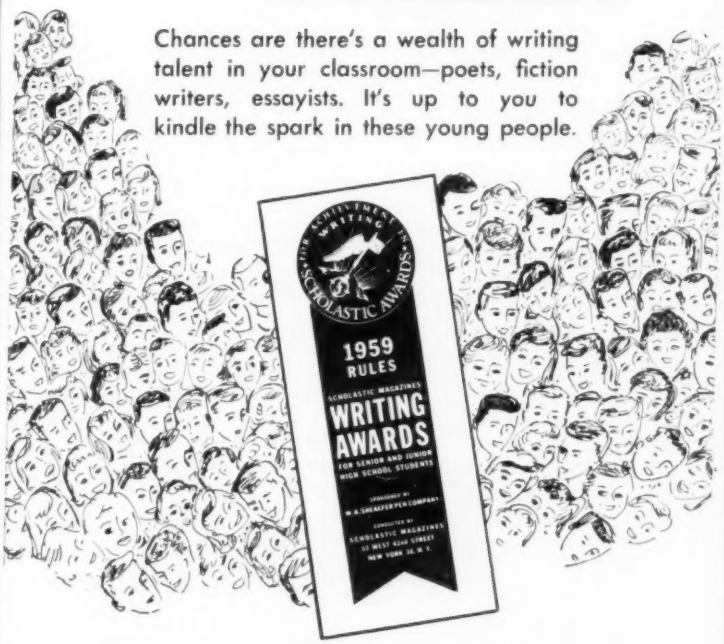

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Scholastic Teacher

The Weekly News Review of Education & Teaching Guide for Scholastic Magazines

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law, petition the Governor to return to the city control of the schools, now closed, to be opened by the city on an integrated basis as required by the Federal Court?" Following the vote, Norfolk Supt. John J. Brewbaker told *The New York Herald Tribune* that if the city's schools were not opened soon, pupils would suffer immediate and irreparable educational harm as well as long-range economic disadvantages.

▶Richmond's two newspapers suddenly abandoned their support of "massive resistance" to integration. The publications were *The News Leader* and *The Times-Dispatch*. The new editorial lines followed conferences by the papers' editors with Virginia Governor J. Lindsay Almond Jr.

Clinton H.S. Fund

A committee of distinguished Americans—led by Charles P. Taft of Ohio and Governor-elect Edmund Brown of California—has been organized to raise money to rebuild bomb-blasted Clinton (Tenn.) H.S. The school was wrecked, apparently by extremists, during the recent integration controversy.

Among the members of "Americans Against Bombs of Bigotry" are Governor Luther H. Hodges of North Carolina, AFL-CIO President George Meany the Rev. Billy Graham, Mayor Ben West of Nashville, Senator Margaret Chase Smith, Mayor Richardson Dilworth of Philadelphia, and others.

Contributions may be sent to Clinton School House, Clinton, Tenn.

Twain Memorial

In Hartford, Conn., last week, a distinguished looking, gray-haired man in overalls glued a loose piece of wood on the baroque bed Samuel Clemens brought back from Venice. Elsewhere in the sprawling Victorian house "Mark Twain" built and lived in for 30 years, others were at work re-installing Tiffany glass windows.

The repairmen included a textile manufacturer, an architect, and an insurance executive—all admirers of Samuel Clemens. Their devotion and dollars are restoring to Victorian elegance the Mark Twain Memorial home. From a barn, they rescued and put back in place the carved wood mantelpiece the author brought home from Germany.

The guest room bed occupied by Bret Harte, William Dean Howells, Kipling, and other famous literati, is in place. So is much Victorian furniture identical with that Twain owned.

Visitors from all over the world and all states come daily, for Twain is probably the world's favorite American author. The book shelves are filling with first editions and other books Twain owned. Original photographs of the author, his wife and three daughters, his neighbor Harriet Beecher Stowe, and others, are displayed.

Very swiftly, the house in which *Huckleberry Finn* and *Tom Sawyer* were written is emerging as one of United States' major literary shrines. —W.D.B.

School Officers Meet

The Council of Chief State School Officers, at its annual meeting in Chicago last month, unanimously passed 13 resolutions. Among them:

"Although the Council believes that the provisions of the National Defense Education Act will do much to extend and improve American education in those programs of special importance to national defense, it records its concern over the dangers of Federal control inherent in this type of piece-meal Federal assistance which, through the offer of Federal funds, stimulates state and local emphasis upon specific school programs and thus has the effect of unduly influencing state and local educational policy."

It urged the formulation and adoption by the Federal government of a statement of policy regarding the "long-range role" of the Federal government in using Federally-collected taxes for the support of public education. The council called upon the U.S. Commissioner of Education to initiate the drafting of such a statement.

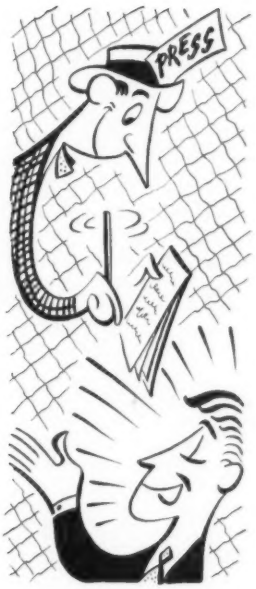
The council backed Federal support legislation "of a general type which leaves to the states complete freedom to determine the educational purposes for which Federal funds should be used."

In Brief

▶**M.F. Coddington,** former Superintendent of Schools in Centerville, S.D., has been elected State Superintendent of Public Instruction for South Dakota. Re-elected to new terms were **M.F. Peterson,** Superintendent of Public Instruction, North Dakota; **Rex Putnam,** Superintendent of Public Instruction, Oregon; and **Adel F. Throckmorton,** Kansas Superintendent of Instruction.

▶**Herman Allen** of "Newsweek" magazine has been elected president of the Education Writers Association.

▶A one-time South Carolina mill-hand, who 27 years ago started a campaign to provide needed library books to Negro pupils, is among this year's winners of the Lane Bryant Annual Awards. The former mill-hand is **Rev. W.L. Buffington,** now president of Paine College in Augusta, Ga. His campaign led to establishment of seventy "Faith Cabin Libraries" in South Carolina and Georgia.



A B C's of a School Paper

By STANLEY SOLOMON

MANY teachers realize the rich values for youngsters in running a school newspaper, but more often than not the teacher who is asked to take over publications has had no training in journalism, and finds the job confusing. This need not be so. Here are some specifications for a successful school newspaper:

Why have a school paper? First of all it is a comprehensive means of communication—keeping every part of your school in touch with every other. The paper also expresses students' views through editorials and letters. Occasionally even the faculty gets in on the act. Thirdly, the paper entertains, through columns, puzzles, and other features.

Another important function of the school paper is to tell the community what's going on in your school. For example, you might explain what kind of tests are given, and for what reasons.

Lastly, and in some ways most valuable of all, your paper provides training in many skills.

What makes a school paper? All types of workers—not only writers—team together.

How is a school paper organized? This of course depends on how many willing youngsters you have available, but in general there are two departments—business and editorial.

The business side raises the money to pay for production and distribution through advertising, subscriptions, and promotions such as dances and special fund-raising events. This department also keeps track of all finances.

If your youngsters are interested in methods of business (like selling), art (for ads), photography (for ads), or just like to deal with figures, there are interesting jobs here for them.

The editorial department handles fact and opinion through writing, photography, and art work. It deals with the printers and engravers on the details of production. Even if your young people just like to design and plan things like a bulletin board there is a job here for them. (Arranging a newspaper page is similar to planning a bulletin board for "eye appeal.")

What are the jobs in the Editorial Section?

► **Reporters**—heart of the paper—dig up facts. What's happening in clubs, new faculty members, how your teams are doing, plans for your yearbook this year, etc. Getting the facts requires much persistence, knowing how to get along with everyone and knowing how to check fact against opinion.

► **Editors**—usually the "old pros," with most experience—look over what reporters bring in. Editors then edit—or revise—the stories, much as youngsters do when they get a composition back from their English teacher. Editors search for complete facts (who, what, when, where, why, and how), errors in fact (especially spelling of names and handling of dates), clues to a future story. Sometimes the editor sends the reporter back for additional information. When the editor finishes copyreading the story, he writes a headline for it. The kind of headline he writes—number of lines, length of lines and so on—is determined by the space and position the editor has assigned to the story on his page blueprint—called the dummy.

► **Special editors** write features, or stories that call for personal opinion of the writer. They may write editorials or special columns reviewing TV, the movies, and books.

► **Photographers** are often the be-all or end-all of a successful school paper. Sometimes they can capture in pictures almost all that's necessary for a news item. And pictures are important if you want your pages to look attractive.

► **Artists**—especially those who can make linoleum blocks—are needed to illustrate stories, draw charts and graphs, etc.

What are the jobs in the Business Section? The business manager usually has come up through the ranks. He sees that all the different jobs in his section are carried out, and keeps an accurate and up-to-date record of all money the paper earns and pays out.

► **Advertising chief and staff** go out in the community and sell advertising space in the paper. Ads are best when they contain photos or art. Ads are prepared in rough form to be shown to each merchant. Sometimes the art teacher can help youngsters design good ads. Students also often write the wording (or "copy") of each ad.

► **Circulation staff** arranges to distribute every issue of your paper. There are many ways of doing this, but it is important to have a foolproof system so that only those who pay for the paper get it. Circulation also exchanges your paper with those of other schools.

► **Subscription and Promotion staff** sell your paper. Today few school papers are sold issue-by-issue. Either the paper is sold by the term or year or is included under a general "activity fee." But the job of promotion—or always keeping your paper in the public eye—is necessary for reader interest. This is maintained at a high level by contests (snapshot, election of a queen, homerooms selling the most subscriptions, etc.) and by constant publicity.

Who "runs" your paper? The editor-in-chief is the "boss." He usually meets with his page editors once a week (no matter how often or infrequently your paper comes out). This editorial board determines what stand the paper will take on controversial issues like school elections, avoids doing anything in bad taste, and in general guides *what* goes in the paper and *how*.

The faculty adviser is normally present to help by friendly criticism of copy and layout. Otherwise he should take a "back seat" and let the young journalists handle *their* own paper. Of course it is the adviser's responsibility to guide the staff away from errors due to inexperience. But he should try to avoid acting like a censor. Only rarely is it necessary for the adviser to "crack down" on some editor for news or editorial copy that opposes school policy or is too sensational. If the students cannot be brought to see their responsibility by persuasion, it may be necessary to refer the problem to the principal.

This is an aerial view of the school paper—different people with different skills all working together under the unobtrusive guidance of a faculty member.

Stanley Solomon teaches at Linton H. S., Schenectady, N. Y.

New Materials

PLANET EARTH—Teaching aid designed to stimulate science interest. Classroom package consists of six full-color, 34″ x 48″ posters entitled "The Earth," "The Oceans," "The Poles," "Sun and Earth," "Weather and Climate," and "Space"; thirty copies of a 44-page illustrated student brochure describing the work of scientists in a dozen fields; and a Teacher's Kit made up of suggestions for classroom experiments, background material on the IGY and the earth sciences, brochure giving information on science scholarships, and material on teaching the IGY. Distributed through the National Academy of Sciences Publications Office, Washington, D. C. ($9.50)

AUDIO-VISUAL CATALOGUE — The 1959 edition of the Children's Reading Service catalogue has just been published and is available free to teachers who request it on school stationery. Booklet lists 1,000 records and filmstrips from many manufacturers. Listings are arranged by subject area and grade level, from kindergarten through college. Write Children's Reading Service, 1078 St. John's Place, Brooklyn 13, N. Y.

NEW I-SPY BOOKS—Two new books make learning as exciting as a paper chase. Fresh from the press, they are *I-SPY Automobiles and Trucks* and *I-SPY My Home Town*. Originated by a British school teacher, I-SPY is do-it-yourself education which boys and girls 8 to 12 enjoy. They learn of the world around them by firsthand observation. Both new 48-page books are January selections of the Arrow Book Club. Single copies, together with a starter kit, will be sent free to teachers. Write to: National I-SPY Ranger Association, 33 West 42nd St., New York 36, N. Y.

AIDS FOR BULLETIN BOARDS—Cut-out letters designed to help in making attractive bulletin boards are available in black, green, yellow, blue, red, and white. Sets consist of 180 two-inch capital letters, numbers and signs; and 1½″ manuscript style in sets of 240 letters. ($1 per set.) Mounting is done by reusable adhesive, $1 per pack. From Mutual Aids, Dept. 43, 1946 Hillhurst Ave., Los Angeles 27, Calif.

FILM CATALOGUES—Visual Aids Service of the University of Illinois is publishing 17 subject-area film catalogues covering such fields as: safety education, arts and crafts, social science, language arts, and science. Free from the Service, Univ. of Illinois, Division of Univ. Extension, Champaign, Illinois.

BOOK CATALOGUES—From Random House, 457 Madison Ave., New York 22—two book lists: *Science Books for Young Readers* (6 pages), and *Landmark Books* (8 pages). Both free. From R. R. Bowker Co., 62 W. 45th St., New York 36—*Growing Up with Science Books* (36 pages), a guide to informational science books; *Growing Up with Books* (32 pages), a list of over 250 juvenile books. Ten cents each from Bowker. Readers' Choice, 33 West 42nd St., New York 36—a catalogue of 300 selected paperbound books for grades 4 through 12. Categories include: mysteries and fantasies; things to do, science, Shakespeare, junior and senior classics. Free.

Records and Tapes

THE POETRY OF COLERIDGE. *(One 12-inch 33 1/3 rpm record, $5.95 list; $5.50 to schools. Caedmon Publishers, 277 Fifth Ave., New York City.)*

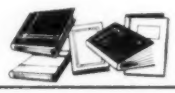
Coleridge fans and admirers of English actor Sir Ralph Richardson will be delighted to discover this excellent Caedmon recording. A fine reader like Richardson seems to make even the most difficult poetry immediately intelligible. Hearing poetry, one is not conscious of the movements of the machinery—the agonizing business of meter, rhyme, and form. Moreover, one is reminded that poems are written primarily to be heard or to be sung, and not for tedious line-by-line dissection.

Richardson begins his reading with "Kubla Khan," that strange and beautiful fantasy of a drugged dream; then reveals Coleridge's changing moods and vision with "This Lime-Tree Bower My Prison," "Frost at Midnight," "Dejection: an Ode," and finally, "The Ancient Mariner."

Teachers will not find a better recording of "The Ancient Mariner" or a better means of teaching the popular narrative poem. If students heard it several times, they would have no trouble with its "alien" language, because they would have a strong initial sense of the feeling and meaning of the work.

—Ray Bentley

Books



THE TEACHING OF ART IN SCHOOLS, *new and revised edition by Evelyn Gibbs. (John de Graff, New York, 1958, 127 pp., $5)*

A challenging approach to art can change a classroom bogged down by old-school conformity into one charged with industry and enthusiasm. Here, in this revised edition, the methods used to stimulate "the artist" in children are stated in an interesting and convincing way.

Miss Gibbs' ideas, based on many years of teaching experience, mainly concern the danger of stifling children's imaginations through the academic approach to self-expression. In stressing the importance of mechanically copying the exact appearance of objects, through a series of hackneyed formulae, the innate creativity of children's work is all but destroyed. In place of the conventional methods, Miss Gibbs believes that "although technically crude, children's pictures have in essentials the qualities which are apparent in the works of artists," and that the teacher's main concern is to develop full freedom of expression.

The methods suggested for doing this would provide many lively art lessons through the extensive use of imaginative paintings and techniques of pattern-making, lino-cutting and applique. Each technique is amply illustrated, in color and black and white, with children's work done under Miss Gibbs' guidance. Nor are the problems of the teacher overlooked, for a chapter is devoted to the difficulties arising from children's diversified backgrounds, emotional adjustments, and creative levels, along with problems presented by inadequate facilities and equipment.

This book should be read by every teacher of art, as it presents a vigorous method for developing the creative abilities of the child.

—Elizabeth Munk
East N. Y. Jr. H. S.

Teaching Guide for this issue of Senior Scholastic

WHAT'S IN THIS ISSUE

Nuclear Weapons: Should We Snuff Them Out? (p. 8). Our Forum Topic of the Week is the College Debate Topic for 1958-59. The control of nuclear weapons is a "hot" issue and we present strong arguments on both sides of this controversial question.

South of the Sahara (p. 10). In our world affairs feature, we explore the independence movements in sub-Sahara Africa and consider the implications for East and West.

Petroleum: Lifeblood of American Industry (p. 14). As the 100th anniversary of the petroleum industry nears, we consider the enormous impact of the industry on our present-day way of life.

Michael Faraday (p. 22). In "Breakthroughs in Science" we meet the 19th-century scientist whose great discovery was that of electrical induction and whose greatest inventions were the generator and transformer.

Nuclear Weapons (p. 8)

American History, World History, Problems of Democracy

Digest of the Arguments

Our Forum Topic of the Week is the College Debate Topic for 1958-59, "Should the further development of nuclear weapons be prohibited by international agreement?" Proponents argue that the current "H-bomb" and the projected cobalt bomb are capable of destroying most of the world; that radioactivity resulting from tests can harm generations yet unborn; that freezing nuclear weapons development at the present time would not involve a threat to U.S. security.

Opponents argue that the Russians cannot be trusted to respect any international agreement limiting the nuclear race; that distinguished scientists minimize the danger of radioactive fallout from tests; that continued testing is necessary to develop a clean bomb that can be useful as mining and engineering aids.

Aim

To help students evaluate the arguments for and against prohibiting by international agreement the further development of nuclear weapons.

Assignment

1. In parallel columns, using your own words, outline the arguments for and against prohibiting by international agreement the further development of nuclear weapons.

2. Decisions we make on nuclear testing today will affect future generations. Explain.

Discussion Questions

1. Why has the control of nuclear weapons development become a major international issue?

2. What evidence have we that there is disagreement among nations over ways of insuring effective control of nuclear weapons testing?

3. If you were representing the United States at an international meeting to consider control of nuclear weapons testing, what conditions would you insist on before agreeing to a ban on further testing?

4. Friendlier relations between Russia and the West must precede any enforceable agreement on control of nuclear weapons testing. Do you agree? Support your viewpoint.

Things to Do

Have the class assemble as an international conference to consider ways of prohibiting development of nuclear weapons. Decide which countries should be represented and then divide the class so that each country has spokesmen. A student can act as chairman of the conference. He can introduce the subject and moderate the discussion. The outcome may take the form of a vote, or a small committee can prepare a release to the press summarizing the results of the conference.

References

Jungk, R., "18 German Physicists Say There Must Be an End," *Reporter*, April 3, 1958.

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Schweitzer, Albert, "Obligation to Tomorrow," *Saturday Review*, May 24, 1958.

Teller, Edward, "Alternatives for Security," *Foreign Affairs Quarterly*, January 1958.

Teller, Edward and Latter, Albert, "Should U.S. Stop Nuclear Tests?" *Foreign Policy Bulletin*, May 15, 1958.

"Radiation and Heredity," *United Nations Review*, July 1957.

South of the Sahara (p. 10)

World History

Digest of the Article

About 150,000,000 people inhabit sub-Sahara Africa. Of these only about 3,500,000 are of European descent. Most Africans are organized into hundreds of tribes speaking some 800 native languages. European colonial powers have improved communications and economic life on the continent, but there are tremendous shortcomings. Independence movements are strong in Africa, and East and West are keenly concerned about the positions which will be taken by the new nations being formed. Africa has a huge power potential in its unharnessed water resources and an industrial potential in its largely untapped mineral resources.

Aim

To help students understand the independence movement in sub-Sahara Africa, and to indicate the interest of East and West in the new nations being formed.

Things to Do

Organize several committees to undertake brief round-table discussions on topics assigned. Each committee should have a chairman to introduce

TIPS FOR TEACHERS

Are you trying to "cover" too much? If your curriculum is organized along subject matter lines, you are probably wondering how you can be expected to complete the term's work. You are not alone in this boat. Some of us have met this problem by taking part of the curriculum as suggestive rather than prescriptive. Either leave out what you regard as dispensable or assign it for reading without attempting to cover it in class. This latter approach is sound. It is quite impossible to cover everything assigned in class, daily. Analyze the assignment to cull from it those vital materials which lend themselves best to achievement of social studies objectives. You will then be making teaching more meaningful, and at the same time end the mad rush to cover ground.—H.L.H.

the topic and moderate the discussion. Suggested topics are: (a) The role of colonial powers in sub-Sahara Africa; (b) The race problem in Africa; (c) Possibilities of economic growth of Africa; (d) Nationalism (independence movements) in Africa; (e) East versus West in Africa.

Petroleum (p. 14)

American History, Economics

Digest of the Article

The petroleum industry has become the major source of power for America. Gasoline and diesel fuel make America's wheels go round. Petroleum lubricants make the wheels turn smoothly. More than 2,000,000 Americans are employed in the petroleum industry, and other millions owe their jobs indirectly to the petroleum industry.

The industry has made giant strides since Edwin Drake struck oil at a depth of 69.5 feet in Titusville, Pa. The average well is now about 4,000 feet deep, and it costs from $100,000 to $2,000,000 to drill an oil well.

The petroleum industry has changed our entire way of life. Petroleum products fuel more than half the machines and lubricate all of the machines which do 94 per cent of our work. The automobile and bus have allowed our cities to mushroom. Farmers can farm more land with less labor. Petroleum also plays a major role in national defense.

Aim

To help students appreciate the role of petroleum in our economic life.

Assignment

1. How was oil obtained before the first oil well was drilled?
2. Discuss briefly the significance of Titusville, Pa., in the history of petroleum.
3. List ten uses of petroleum products.
4. Petroleum is the lifeblood of American industry. Explain.

Discussion Questions

1. What obstacles did Edwin Drake have to overcome before he struck oil in Titusville, Pa., almost 100 years ago?
2. Account for the rising demand for petroleum during the second half of the 19th century. Why did demand become even more intense during the first half of the 20th century?
3. To what extent, if any, has the petroleum industry affected life in the United States?
4. The petroleum industry and other industries interlock at many points. Do you agree? Give reasons to support your viewpoint.
5. In the years ahead, do you think that there will be an increased demand for petroleum? Why or why not?

Things to Do

The name Rockefeller and oil are closely associated in American history. Some students can consult biographies of John D. Rockefeller (*e.g.*, the prize-winning biography of Rockefeller by Allan Nevins) and report on some aspect of Rockefeller's relations to the oil industry.

Coming Up!

in Future Issues

December 12, 1958

World Affairs Article: **Germany . . . Torn by a Tug of Cold War—The Berlin crisis, how it came about, and what it means.**

National Affairs Article: **Air Pollution . . . Shame of Our Cities—What is being done to clean up the air we breathe, and why.**

Forum Topic of the Week: **Holidays . . . Or Dollar Days?—Have our holidays become over-commercialized?**

Breakthroughs in Science: **Joseph Henry . . . Electricity Becomes Power.**

Michael Faraday (p. 22)

"Breakthroughs in Science" this week is devoted to the 19th-century scientist whose work with electricity made it possible for the Industrial Revolution to flow out of the factory and, in the form of electricity, into the home.

Discussion Questions

1. How did Faraday's training qualify him to make a contribution to the field of electric power?
2. What evidence have we that Faraday used scientific methods to formulate his theory of electrical induction?
3. Faraday was both a *scientist* and an *inventor*. To what extent, if any, do these terms differ? Describe Faraday's practical inventions.
4. It could be said that the scientist, Humphrey Davy, gave the world Michael Faraday. Explain that statement.

Things to Do

A science-minded pupil can give a chalk-talk in which he describes the difference between alternating and direct current (AC and DC).

Ad-Wise

Another of the stimulating creative advertisements of the International Business Machines Corporation appears on page 2 of this week's issue. It is the third in the IBM series, "Mathematics Serving Man" to appear this year (see also Sept. 29 and Oct. 24 issues).

The flexible, creative genius of Blaise Pascal was equally at home with abstract theory or workshop experimentation. Before he was sixteen, he had completed a startlingly original study on geometric planes and curves. It proved to be a forerunner of our present projective geometry. Three years later, irked by the drudgery of adding endless columns of figures in his father's tax office, he translated his earlier abstractions into a design for the world's first successful calculator. Its principle of gear-driven counter wheels is still in use. This machine, as pictured on page 2, is in the collection of the Arts and Sciences Department of IBM. The coins are seventeenth-century French.

A friend once asked Pascal if games of chance might be governed less by luck than by laws of mathematics. Intrigued by this challenging idea, Pascal evolved a theory of probability upon which rest major elements of our present science of statistics—and, in turn, insurance mortality tables, and even business and military planning.

Finally, his intense interest in religion and the human spirit led Pascal to write his *Pensées*—still admired, three centuries later, for the acuteness of its reasoning and the polish of its prose.

"Should You Seek a Career in Life Insurance" (pages 4-5) offers valuable career guidance. Since there are career opportunities in life insurance for boys and girls who are either high school or college graduates, this two-page feature is well worth reading and discussion. You can raise such questions as: Why is life insurance regarded as a growing field? Which of the openings in the life insurance field interests you most? Why? Which of your high school subjects can help to prepare you for work in the life insurance field? What do we mean by a "dead-end" job? Describe the opportunities for advancement in the life insurance field.

THIS WEEK'S QUIZ ANSWERS

(See page 26)

I. Africa: 1-c; 2-a; 3-d; 4-a; 5-d; 6-b; 7-c; 8-d.
II. Petroleum: 1-d; 2-d; 3-c; 4-a; 5-a.
III. Graph: 1-T; 2-T; 3-F; 4-F; 5-NS.
IV. Nuclear Weapons: 1-A; 2-F; 3-F; 4-A.
V. Michael Faraday: 1-19th-century; 2-English or British; 3-correct; 4-correct; 5-transformer.

SCHOLASTIC TEACHER is continued on page 5-T

Teleguide® *for* CONQUEST

TWO DIFFERENT fields of current research will be dramatically presented on the sixth "Conquest" science program. One has to do with the systematic search for chemicals produced by molds and the testing of these chemicals on cancer cells. The other is concerned with work being carried on at a volcanic observatory in Hawaii.

"Conquest" goes on the air on Sunday, Dec. 14 (5:00-6:00 p.m. EST, CBS-TV).

The cancer-mold part of the program will be of particular interest to biology classes for it offers a review of the life cycle of molds as well as an insight into chemotherapy—an important branch of cancer research. The volcano documentary will give general science and earth science students an opportunity to see how scientists investigate volcanic eruptions. Cameras will go right to the edge of the great Kilauea on the Island of Hawaii.

The "Conquest" science programs are planned with the advice of the American Association for the Advancement of Science, the National Academy of Science, and the National Research Council. All of the hour-long telecasts are sponsored by the Monsanto Chemical Company.

Official U. S. Navy photo

Video cameras will go to the mouth of a volcanic crater—and into the scientific laboratory—to bring you the story of man's quest to find out what causes volcanoes—and what causes cancer. Volcano shown above is Boqueron off coast of Mexico. Laboratory is that of Dr. Paul Burkholder at the Brooklyn (N. Y.) Botanical Gardens.

BEFORE THE TELECAST

1. Teachers may find it useful to introduce the mold-cancer relationship by pointing out the following: Antibiotics are produced by living organisms like the mold as part of the struggle for existence in the microscopic world. Antibiotics are offensive weapons of molds against certain enemy cells. Scientists keep looking for molds which happen to create antibiotic chemicals needed by man in his own fight against disease.

In preparation for the telecast, these terms should be explained or reviewed: fungus, spore, spore sac, hyphae, leukemia, chemotherapy, mitochondria.

Suggested questions for classroom discussion: Since mushrooms cannot synthesize food, how do they manage to grow so rapidly? How was penicillin discovered? In what ways does a cancer cell differ from a normal body cell? What is the main requirement of an effective chemical against cancer?

2. For a better understanding of the volcano documentary, these facts might be reviewed in earth science and general science classes: The Hawaiian volcanoes, Mauna Loa and Kilauea, are examples of the quiet or non-explosive type. The islands themselves were built up by repeated outpourings of lava. Many geologists believe that the material ejected comes from the earth's mantle—that is, from a region below the 30-mile-deep crust. Dr. Gordon A. MacDonald of the Kilauea observatory believes that volcanic activity takes place entirely within the crust of the earth.

Before starting the students on a discussion of the causes and distribution of volcanoes, the nature of lava, and the cause of repeated eruptions—the meaning of these terms should be reviewed: crust, mantle, core, fault, basalt layer, seismograph, magma, lava.

AFTER THE TELECAST

1. The techniques of antibiotic research as revealed in the cancer-mold story should fascinate students of biology. They will want to talk about what they have seen: the pinch of Puerto Rican soil from which came the unknown mold K-1501; the testing of the K-1501 antibiotic on staphylococci in a petri dish; the testing of mold-produced chemicals on living cancer cells; the tremendous amount of work that has to be done before the effectiveness of an antibiotic can be determined.

Discussion questions: What effect does the man-made chemical 6MP have on cancer cells? What happens when 6MP is used against leukemia? How did the investigators find out whether Azaserine stopped the growth of cancer cells implanted in chick embryos? What do the mitochondria reveal about the condition of a cancer cell?

2. Dr. MacDonald's theory will now be better understood by students. He is of the opinion that all volcanic activity is precipitated by earthquakes; that there is rock deep down in the earth's crust hot enough to be molten but held in a solid state by enormous pressure; that a sudden faulting causes a sudden decrease in pressure; that this decrease in pressure changes the hot rock to a liquid which rises through the crack and forces its way up and out as molten lava.

Questions for discussion: Why does Vesuvius build up a steep cone while Kilauea gives rise to a flat cone? What happens to the gases in the magma as it rises? How do geologists account for the honeycombed appearance of rock specimens found near volcanoes? In what way do the facts established by seismographs support Dr. MacDonald's theory?

FINAL REPORTS

Suggested summing-up reports:

1. The discovery of penicillin.
2. Development of the broad-spectrum antibiotics like streptomycin and aureomycin.
3. The composition of the solid part of earth—from crust to center.

—HARRY SOOTIN

ADVERTISEMENT

Films from TV

By VERA FALCONER

"THAT'S JUST what I need for my class!" Have you ever thought this while watching a television program?

Well, considerable material designed originally for telecast has been made available to schools. Some of it is free, some of it is for rental, and some for purchase.

An outstanding example of a worthwhile series now available without charge is *The Twentieth Century*. In this series, there is a wealth of topics available for social studies and modern history classes. These include *War in Spain, War in Korea, Gandhi* and *Autobiography*. This last one, by the way, is grand fun, too—a terse history of the automotive industry with wonderful shots of early cars. This one, like others including *Rockne of Notre Dame* and *October Classic* are good assembly fare. You can get a complete listing from The Prudential Insurance Co. (Education Dept., Box 36, Newark, N. J.).

Association (Association Films, 347 Madison Ave., New York 17) has free offerings from TV, including the three award-winning Hallmark Cards subjects—*Richard II* (2 hrs.), *Macbeth* (2 hrs.), and *Cradle Song* (90 mins.). Two sponsored by the Smith, Kline & French Laboratories—*Monganga* (56 mins.) and *We, the Mentally Ill* (27 mins.) are both definitely senior high. The excellent hour-long Bell Telephone science films, *Hemo the Magnificent, Our Mr. Sun, Strange Case of the Cosmic Rays*, and *Unchained Goddess*, are available from several distributors or may be requested from local Bell Telephone Co.

Modern Talking Picture Service (3 East 54th, New York 22) offers without charge other films from TV. Just released are four (about 20 mins. each) from the Standard Oil (Indiana) TV series, *Spotlight on Research*.

Others from Modern are: *Let's Take a Trip* (28 mins.) sponsored by U. S. Rubber, story of a modern rubber factory, and *Science Detectives* (25 mins.) sponsored by Charles Pfizer & Co., the search for antibiotics. Both are from the CBS "Let's Take a Trip" series.

A few individual films from television available for purchase or rental are handled mainly by a fairly small group of distributors. Let's see what each has to offer.

One of the newest releases is *The Wisdom Series*, produced by NBC, offered to schools by Encyclopaedia Britannica Films (Wilmette, Ill., and regional offices). These are 25 conversations with great personalities touching many subjects. Although visually you see mostly the personage and the interviewer, these are neither dull nor slow moving. The people themselves are so alive that they command attention and interest. Subjects range from government and history to literature, music, and administration. Personalities include Frank Lloyd Wright, Herbert Hoover, Arnold Toynbee, Carl Sandburg, Igor Stravinsky. Each is presented in his own setting—Nehru in his garden, Ben-Gurion in his study, Casals in a French cottage, Frost in his Vermont farm home. Outstanding material for classes and for assemblies—senior high in most cases. EBF will send a complete listing on request.

Association Films has one rental series, *Adventure in Number and Space*, produced by Westinghouse Broadcasting Co. In these nine half-hours, Bil Baird and his marionettes show mathematics as an exciting activity, introducing one branch of math in each film. Coverage is very light, designed to stimulate interest rather than to teach.

Walt Disney Films

You are, of course, well acquainted with Walt Disney material, much of which was originally released in theatres. Disney's releases to schools from the Disne .and and the Mousketeers TV shows include some excellent material for elementary grades, all eight-minute subjects, with Jiminy Cricket: *I'm No Fool* safety series; *This Is You* health and hygiene films; *Nature of Things* films on the elephant and the camel. For junior and senior high class, club or assembly: the three science films: *Man in Space* (31 mins.), *Our Friend the Atom* (48 mins.), and *Man in Flight* (31 mins.) are available for rental from a number of distributors. You may also write to Educational Film Division, Walt Disney Productions (500 South Buena Vista St., Burbank, Calif.).

Contemporary Films (267 West 25th St., New York 1) has for you the superb *The Lady from Philadelphia*, Marian Anderson's tour of southeast Asia for the State Department, as originally presented on CBS-TV's "See It Now." This one-hour film shows Miss Anderson speaking to children, visiting a shrine, doing a radio interview; as well as allowing you to hear her sing many numbers including spirituals, folk songs, hymns, arias, and anthems. Contemporary also offers for rental some of the other "See It Now" programs and the "Constitution Series," McGraw-Hill releases discussed in the next column.

The Twisted Cross, the famous "Project 20" telecast on the Hitler regime, is now available on film for school use.

McGraw-Hill (Text-Film Dept., McGraw-Hill Book Co., 330 West 42nd, New York 36) has several top-notch series, again mostly for the high schools, for class or assembly. One of their newest is *Air Power*, 26 half-hour films produced by CBS, presenting the history of flight and airpower from the Wright brothers to jets and the future. Also fairly new, the three 54-minute *Project 20* films, produced by NBC: *Nightmare in Red*, a history of Russia from revolution to the present; *The Twisted Cross*, a study of the Nazi regime; and *3, 2, 1, 0*, on atomic development.

No doubt you're well acquainted with the Omnibus series on *The Constitution* and *The Lincoln Series*, as well as the CBS *See It Now* group with Edward R. Murrow. The latter includes 26 subjects on various topics, ranging from 14 mins. to 90 mins., again serious material, and senior high.

If your classes can take really strong, pungent stuff, if they are really grown-up, try some of the eight *Perspective* films, produced by Canada's CBC-TV (also from McGraw-Hill). These 27-minute subjects present social problems, pulling no punches: drug addiction, alcoholism, mental health, juvenile delinquency, neglected children, tensions of modern living, relocation, the aged. Definitely senior high or adult films.

The Young America Division of McGraw-Hill continues to offer *The Search*, 27 filmed reports from leading research centers on varied topics (each 27 mins.); and the very excellent and exciting *You Are There* series—78 titles, each 27 mins. Both series are from CBS.

Another source of films-from-television, which we may frequently forget about, is Educational Television. The Educational Television and Radio Center at Ann Arbor, Michigan, assisted in the development and production of more than 170 series (over 2,500 individual programs) for ETV stations. Many of these are available for rental to schools through NET Film Service, Indiana Univ., Bloomington, Indiana. NET catalogue is free on request.

Parade of the States | **Michigan**

The Michigan Approach To Educational Problems

By LYNN M. BARTLETT
State Superintendent of Public Instruction

Lynn M. Bartlett

CURRENT PROBLEMS facing Michigan education today are of similar nature to those confronting most states. There is a critical need for competent qualified teachers, for more classrooms, for a "space-age" curricula, and for a more realistic and adequate means of financing education.

During the past year, education in Michigan has been the center of an increasing amount of concern and criticism. We feel this is a healthy sign and we have not been discouraged by this critical attention.

Fortunately, along with this concern and criticism, has come increased interest on the part of our citizens. They want to know more about their schools —not only what is *wrong*, but also what is *right*.

A basic cause for the situation in which we find ourselves, is a school population figure that is going up almost as fast as a Polaris missile. There are, of course, a great many problems that are aggravated by this enrollment increase. To put it very simply, more students mean more classrooms, more teachers, more equipment, more office clerks, more custodial help, more administrators, and a *great deal more money*.

Last summer the Michigan Congress of Parents and Teachers, always vitally interested in schools, decided to do something more than just talk and read about issues and problems facing education.

At its request and with its sponsorship, an experimental discussion guide for citizens was prepared. It was coordinated by the State Department of Public Instruction, and written by a task force from ten Michigan colleges and universities. The Michigan Association of School Boards and other educational organizations also cooperated in the effort.

The purposes of the guide, *Studying Michigan Schools*, are clear and concise:

1. To help inform citizens in each local area of the educational programs in Michigan. 2. To give citizens an opportunity to understand better the functions of their local schools. 3. To point out current basic issues in education. 4. To give each citizen an opportunity to express his individual beliefs concerning public education.

There are several reasons why we think this project is unusual:

► We are estimating that in this first year the Michigan project will involve close to 100,000 P.T.A. members.

► In depth, the study will hit hard at all three levels—local, regional and state.

► All citizens taking part in the study will be placing emphasis not only on local problems, but also on state and national issues.

Another feature is that this will not be a one-year, one-shot attempt. Plans for a continuing five-year study are now in the process of final preparation.

Another recently-organized group that we feel will have a great influence on the course of education in Michigan is our Educational Council. The function of the Council is to meet not only during times of crisis, but regularly and continually, to discuss the issues that are common to all, and to plan progressive and constructive programs for education in Michigan.

The advent of the space-age did not find us sitting on our past curricula accomplishments. Here in Michigan, we have been very much aware of the need for curricula improvement. We have a Michigan Curriculum Program. This is a cooperative endeavor in which interested individuals, voluntary and official agencies work to improve schools.

The bedrock of this program consists of 25 curriculum committees with a membership of more than 700 lay citizens, administrators, and teachers. The implications of the new National Defense Education Act are already being considered by our curriculum groups.

I am convinced the one indispensable and most necessary factor in any plan for educational progress is total citizen involvement. In Michigan we want our citizens and our parents to be working partners with teachers, school administrators, and legislators. We not only want them to say, "These are our schools." We want them to feel pride of ownership and accomplishment as, together, we do all we can to give our boys and girls the very best in educational opportunity.

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Teleguide *for*

Gift of the Magi

ON DECEMBER 9 at 9:00 p.m. (EST) over CBS-TV, the W. A. Sheaffer Pen Company invites you to forget how few shopping days are left until Christmas. Enjoy, instead, a new version of an old holiday favorite, O. Henry's "Gift of the Magi"—a story that may bring deeper meaning to your shopping tours. Gordon MacRae and Sally Ann Howes star in the adaptation by Wilson Lehr, with music and lyrics by Richard Adler.

Since nearly every high school English student knows the O. Henry original, the television adaptation gives us the rare opportunity both to enrich our classroom study of the story and to look more closely at this new medium that O. Henry never knew.

BEFORE THE TELECAST

1. Learn some biographical facts about O. Henry. How did his life prepare him for writing? How did his imprisonment especially fit him for his career? Name other writers and historical figures who have been changed by a stay in prison.

2. Briefly review the major changes in American society between 1862-1910, the lifetime of O. Henry. How did the Civil War affect American politics? What was happening to American industry, commerce, and transportation during this period?

3. What were the effects of these national changes on New York City? How did immigration affect the city? Try to find photographs of New York in the latter half of the 19th century. (Grace M. Mayer's new book *Once Upon a City*, Macmillan, $15, has invaluable pictures for this purpose.) Arthur M. Schlesinger's *The Rise of the City 1878-1898* is a valuable reference.

4. Consult the writings of Jacob Riis, Lincoln Steffens, and Jane Addams for descriptions of life in the fast-growing American cities of the 19th century.

5. In his preface to *The Four Million*, a collection of short stories including "The Gift of the Magi," O. Henry wrote, "Not very long ago someone invented the assertion that there were only 'Four Hundred' people in New York City who were really worth noticing. But a wiser man has arisen—the census-taker—and his larger estimate of human interest has been preferred." To what "Four Hundred" does O. Henry refer? How do O. Henry's stories bear out his "preference"? Does he show this same preference for the underdog in "The Gift of the Magi"?

6. Read at least three of O. Henry's stories (including "The Gift of the Magi"). How are all of his stories alike? What is the O. Henry "formula"?

7. O. Henry is often classified in textbooks as a "realist." What does this mean? Can you see any things in his stories that might actually classify him as a "romantic" instead?

8. O. Henry's technique is often described as "ironic." What is the irony in "The Gift of the Magi"? In the other O. Henry stories you have read? Is his use of irony convincing or does it seem contrived?

9. Scan two or three stories in a popular ladies' magazine. Do you see any traces of O. Henry influence in these stories? Do these popular stories have a "formula"? Would you say the O. Henry influence on these has been good or bad for popular literature? Compare O. Henry's work with short stories by Bret Harte, Damon Runyon, Ring Lardner.

10. What are other trends in the American short story? Compare your reading of O. Henry with stories by Edgar Allan Poe, Stephen Crane, Ernest Hemingway, Mark Twain, Sherwood Anderson. Which technique do you find most satisfying? Which type of story gives you the most lasting impression?

11. Re-read "The Gift of the Magi" as though you were adapting the story for the telecast. Make a list of the characters, scenes, suggestions you would want to include in your adaptation. Which ones would you expand? At which moments, if you were doing the music for the telecast, would you want to introduce a song? Mark all the narrative parts of the story that would have to be dramatized or put into dialogue on TV. If you were directing the telecast, what tone would you give the play: comedy, tragedy, or melodrama?

AFTER THE TELECAST

1. Did any scenes in the telecast remind you of the photos you saw of 19th-century New York? How did the production establish the time and place of the story?

2. Compare how the original story and the telecast establish the economic and social status of the Youngs. Which method is more economical?

Sally Ann Howes has feminine lead opposite Gordon MacRae in *Gift of the Magi*.

3. How do we realize the value that the Youngs place on Della's hair and Jim's watch in the original story? In the telecast? Do you think the narrative or the dramatic method is better for showing us this kind of insight into character?

4. List all the added characters, episodes, dialogue in the telecast. Why do you think these characters were added: Jim's friend, Skidder; Della's friend, Clara; Jim's boss, Mr. Spiegel? Why do you think these episodes were added: Della's menu-typing, the office party, the argument, the bank loan scene? Did these additions respect the feeling and intentions of the original story? Why is Mr. Spiegel's Christmas speech especially in keeping with what you know of O. Henry and business history of the 19th century?

5. How did the telecast extend O. Henry's use of irony?

6. Consult your notes on how you would have staged "The Gift of the Magi." How did the telecast compare with your ideas about the production?

7. Why is the story called "The Gift of the Magi"? Does the determination of Della and Jim to buy each other the very best contradict the significance of the Magi? Clip ads from newspapers and magazines to illustrate our different attitudes toward Christmas.

8. O. Henry's answer, when someone asked his formula for the short story, was: "Be concise and familiar, and punch when your adversary is off guard. This stuns him, and you may then disappear." Does "The Gift of the Magi" follow this formula? Does O. Henry disappear as soon as he has stunned us in "The Gift of the Magi"? Is the writer less apparent in the telecast than in the original story? Is this an improvement?

—MARY HAZARD

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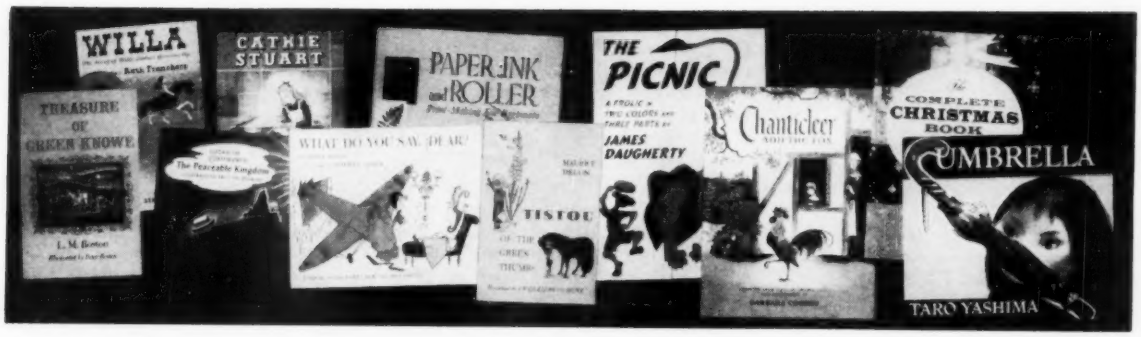

Sharing Time

Ideas and Suggestions for Teachers of the Elementary Grades

More Books for Christmas Giving

Animal Stories

The Animals of Doctor Schweitzer by Jean Fritz. Illustrated by Douglas Howland (Coward McCann, 1958).

"On the left-hand side of Africa, soon after the land humps into the ocean and begins wandering south, there is a wide yellow river called the Ogowe. . . ."

In this way, the almost magical true-to-life story of the great Doctor and his animal friends begins. Would that many children could meet Dr. Schweitzer through this book. You cannot read it without feeling his great reverence for all living things.

You meet Monsieur le Pelican, who guards the Doctor; Upsi, the monkey who likes eggs; and Josephine, the wild boar who insists on going to church every Sunday. Most of the animals come to the settlement and stay.

This book has been written, illustrated, and edited with great care—and is worthy of the great man whose story it tells.

Make Believe

Tistou of the Green Thumbs by Maurice Druon. Illustrated by Jacqueline Duhème (Scribners, 1958).

This beautiful fantasy should be given to very imaginative and perceptive children.

Tistou is the only child of wealthy parents. Somehow he does not fit into the school of Mirepoil, their munitions city. Education in the classroom is traded for education in life. While being "educated" by the gardener, Tistou discovers his gift of green thumbs.

He uses this gift to convert the slums of Mirepoil into a garden of beauty, to interest a sick child in living, and to bring peace between warring countries. But what is to become of Mirepoil—its economy is dependent upon the tools of war?

Just for Fun

What Do You Say, Dear? by Sesyle Joslin with pictures by Maurice Sendak (Young Scott, 1958).

This can be an uproariously funny book if taken as a delightful farce—and this in spite of the fact that it is clearly indicated on the first page that it is "A handbook of etiquette for young ladies and gentlemen to be used as a guide for everyday social behavior."

You learn what to say when meeting a baby elephant—one you are planning to take home with you. After reading this, you are prepared for any emergency. You know how to respond when a knight cuts the head off a dangerous dragon. If you bump into a crocodile you know the proper way in which to beg his pardon. You even know what to say when you literally drop in to see the duchess—right through the roof.

The words are those we keep reminding children to say—"I'm sorry," "Thank you," "Excuse me, please." Only the situations are so absurd that young readers may feel slightly repaid for all the gentle nagging they may have had to endure in the past.

Poetry

The Peaceable Kingdom by Elizabeth Coatsworth. Illustrated by Fritz Eichenberg (Pantheon Books, 1958).

At the season of "Peace on Earth, good will to men," this would make a beautiful gift for a child. It could also serve as the extra special Christmas card for an adult who appreciates good poetry and exquisite art work.

The poem, "The Peaceable Kingdom," is perhaps the most beautiful of the three which make up the book. A little child is pictured with the friendly animals in the forest. There, all things will someday be harmless and gay. There need be no fear when the time comes to leave "for all paths shall lead you back to your home when the lion lies down with the lamb and the Peaceable Kingdom is come."

Happy Holidays and Good Reading!

—Mary Harbage

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Child Guidance: The best time to tackle a minor problem is before he grows up. —RAY FREEDMAN.

Education vs. Ignorance: Nothing in education is so astonishing as the amount of ignorance it accumulates in the form of inert facts.
—*Executives Digest.*

Applause Defined: When prolonged applause greeted the appearance of Bishop Fulton J. Sheen at a Minneapolis meeting, the famed cleric responded, "Applause before a speaker begins his talk is an act of faith. Applause during the speech is an act of hope. Applause after he has concluded is an act of charity." —BOB HANSEN.

What Would You Do?: Two ladies were discussing what they should wear to the country club dance.

"We're supposed to wear something to match our husband's hair. So I'm going to wear black," said Mrs. Johnson. "What will you wear?"

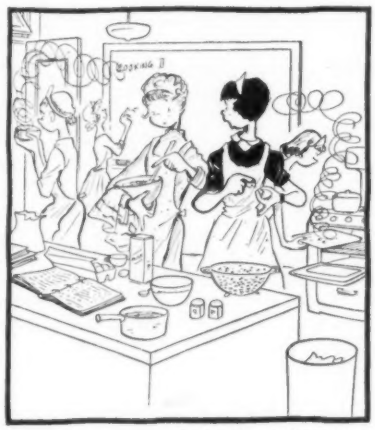
"Gracious," gasped her companion, "I don't think I'll go."
—*Wisconsin Journal of Education.*

Plea: There is a story which my old housemaster used to tell of Winston Churchill when the latter was a boy at Harrow School. One day this teacher of mathematics in despair at the stupidity of his class, wrung his hands and cried out to his pupils, "Oh, boys, boys, what shall I do with you?" "Please, Sir," piped up the voice of a small cherubic-looking boy—later Prime Minister of Great Britain—"Please, Sir, teach us!" —ARTHUR BRYANT.

Share your chuckles. Send us your favorite story for "Free Period." Write it on a post card addressed to "Free Period," Scholastic Teacher, 33 West 42nd Street, New York 36, N. Y.

EMMY LOU

By Marty Links



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"Our teacher, Mrs. O'Flaherty, won't be in today . . . Something she ate!"

At Our Corner

SCHOLASTIC

33 West 42nd Street, New York 36, N. Y.

The four weeks or so between Thanksgiving and Christmas have a certain character—one might even say flavor—all their own. Days rush by almost uncounted; special programs are planned, developed and (sometimes pantingly) achieved; there is shopping to be worked into an already hectic schedule; anticipation of the coming holidays charges the air.

Under what might otherwise be inauspicious circumstances, then, we are pleased to be dealing this week with a proposal for the saving of time. Specifically—and as briefly as possible—we refer to the matter of renewing first-semester subscriptions for the remainder of the school year.

If you are a first-semester (as opposed to a school-year) subscriber, within the next few days you will receive, together with an explanatory letter, a special IBM card showing the number of subscriptions in your current order. Unless you anticipate a change in your requirements, you need only check the box verifying the quantity, sign the card and drop it into the mail, postage free. If a change in your order is necessary, on the other hand, simply use the box below the "present quantity" line to indicate such a change. But in either case, *do not hesitate to mark your order "tentative";* we recognize that situations change unexpectedly, and we have always reserved a subscriber's right to revise an order up to three weeks *after* the semester begins.

Lest we appear too forehanded in speaking of second-semester renewals in early December, note that our purpose is chiefly to avoid any interruption in service. The first two issues of the second semester, dated January 30 and February 6, will be sent automatically to first-semester subscribers, in the usual quantity. Nevertheless, by knowing of your needs in advance we can deliver promptly in the desired quantity.

We are counting on our new IBM system to eliminate what has been an occasional annoyance in the past; by machine-sorting of renewal cards as they are received, we shall be better able to avoid sending repetitive renewal notices to subscribers who have already replied. The few exceptions, of course, will be those whose cards cross our letters in the mail.

M. R. Robinson

President and Publisher

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__2. COMET PRESS, p. 13-T
Brochure, "How to Publish Your Book"

__3. EXPOSITION PRESS, p. 13-T
Brochure

__4. MONTERREY TEC, p. 13-T
Illustrated literature on summer courses

__5. NATIONAL COAL ASSOCIATION, p. 16-T
__(a) List of teaching aids on coal __(b) Information on careers in coal industry

__6. UNITED AIRLINES, p. 2-T
Information and folders on Mainliner vacations

__7. UNITED AIRLINES
Information and folders on United Airlines' services. (See Nov. 7 Teacher, p. 2-T)

__8. WORLD BOOK ENCYCLOPEDIA
Reprints of World Book ad (See Nov. 21 Teacher, pp. 13-T to 16-T)

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This coupon valid for two months. Dec. 5, 1958

Look and Listen

Program Notes on Selected Radio-TV Features

EDITED BY PATRICK AND MARY HAZARD

All times shown are current in Eastern Zone. Programs subject to change. Check local stations before assigning programs to students.

MUSIC AND ARTS

Wed., Dec. 3, 6:00 p.m. (NBC-ETV) **Adventuring in the Hand Arts**: Shari Lewis' guest is Ascanio Sbolidero, who taught her father puppetry, in "Dolls, Puppets, and Diversion." In all societies—simple and complex—children have a need to play, and the doll, made in the human image, is a universal toy. In some non-technological societies, puppetry has been developed to a high art. Dec. 10: "Music and Musical Instruments," with guest Robert E. Wood, author and teacher. By tapping his fingers and hands on whatever object was available, man first made rhythmic sounds. By using one or two sticks, he got amplification and, finally, the drum. By cutting a reed, he made a flute and various other related wind instruments.

Sat., Dec. 6, 8:30 p.m. (CBS radio) **New York Philharmonic**: Leonard Bernstein conducts.

Sun., Dec. 7, 10:30 a.m. (CBS radio) **Invitation to Learning**: William Dean Howells' "Criticism and Fiction," with Stephen Marcus, Columbia. Dec. 14: "The Poems of Edgar Allan Poe," with Harvard's Perry Miller and Edward Davidson, Hunter College.

11:30 a.m. (CBS-TV) **Camera Three**: Katherine Anne Porter, reading and discussing "Ship of Fools." Dec. 14: "The Winter of the Mind," about the poems of Robert Frost.

8:00 p.m. (CBS-TV) **The Ed Sullivan Show**: A special show from Alaska.

Sat., Dec. 13, 12 noon (CBS-TV) **Young People's Concerts**: Live from Carnegie Hall, Leonard Bernstein discusses "What Is Symphonic Music?," Mozart's "Jupiter," Beethoven's "Third," Brahm's "Second," and Tchaikovsky's "Fourth."

FOR YOUNGER VIEWERS

Fri., Dec. 5, 8:00 p.m. (ABC-TV) **Walt Disney Presents**: Young Johnny Tremain of the Sons of Liberty, underground society of rebellious Boston colonists, in "The Shot That was Heard Round the World." When the British governor dispatches his troops to Concord to seize the colonists' arsenal there, Johnny and his girl friend, Cilla, get wind of it and carry the news to the Sons of Liberty. Paul Revere, another member of the group, then gallops off toward Concord to alert the minutemen. Johnny tells the sexton of Christ's Church to light two lanterns, signaling that the Redcoats are approaching by sea, and the stage is set for the historic battles of Lexington and Concord. Dec. 12: "Law and Order, Inc., Part IV."

Mon., Dec. 8, 8:30 p.m. (ABC-TV) **Bold Journey**: Miss Billie Marie Gannon, who won the grand prize in the Ralston 1957-58 Teacher Awards Program, climbs part way up 19,324-foot Mount Kilimanjaro in Tanganyika; sightsees in Nairobi (capital of Kenya); and visits a tribe of pygmies in the forested back country. Dec. 15: "The Glittering Trail," a trip through Central and South America looking for native mines of precious gems. Dec 22: "The Kingdom of Laos," with Marion Dix photographing this handsome people and their celebrated temples Dec. 29: "Vanishing Mayans."

Tues., Dec. 9, 9:00 p.m. (CBS-TV) **Gift of the Magi**: Gordon MacRae, Bibi Osterwald, Howard St. John in Richard Adler's musical version of the O. Henry story. See Teleguide on page 12-T.

Ed Begley, Betsy Palmer, Bramwell Fletcher star in "The Enemies" on *U.S. Steel Hour* Wed., Dec. 3, 10 p.m., CBS-TV.

PUBLIC AFFAIRS

Sun., Dec. 7, 3:00 p.m. (ABC-TV) **Open Hearing**: "Small Explosion," a special dramatic broadcast saluting the tenth anniversary of the Universal Declaration of Human Rights. The program will portray the emergence of racial and economic bias in an American town, apparently free of bigotry, when three touring foreigners arrive. Human Rights Day is Dec. 10.

6:30 p.m. (CBS-TV) **The Twentieth Century**: "The Addicted: Part II, Criminal or Patient?" Forthcoming: Revolt in Hungary, Woodrow Wilson, Mission: Outer Space, Remagen Bridge. Study guides for forthcoming programs as well as free TV films of past programs, are available from Education Department, Prudential, Box 36, Newark, N.J.

Tues., Dec. 9, 10:30 p.m. (NBC-TV) **Ten For Survival**: "The Unseen Enemy," with Dr. Lauriston Taylor, National Bureau of Standards, and Dr. Frank Shelton, Dir., Armed Forces Special Weapons Project, Pentagon. Fallout and the mechanics of nuclear explosions. Description of the experience of the crew of "Lucky Dragon Number Five" when it accidentally received fallout from a hydrogen bomb test. Dec. 16: "Radiation and the Body," with Dr. Shields Warren, Cancer Research Institute, Deaconess Hospital, Boston. The medical and biological effects of irradiation. How to recognize the symptoms of radiation sickness, to protect oneself against excessive exposure and to minimize at least some of the dangers. Differentiation between immediate and genetic effects of radiation. Dec. 23: Non-military defense against nuclear attack. Dec. 30: "Today and Tomorrow." Host Chet Huntley summarizes the series. There are threats to our survival in addition to, and perhaps greater than, the threat of nuclear war—e.g., the depletion of our natural resources.

Wed., Dec. 17, 8:30 p.m. (CBS radio) **The Hidden Revolution**: "The 20-Hour Week," about changing relationships between man and his job. Study guides for the remaining three programs are available from the sponsor, Nationwide Insurance, Columbus, Ohio.

SCIENCE AND EXPLORATION

Sat., Dec. 6, 7:30 p.m. (CBS-TV) **High Adventure with Lowell Thomas**: See Teleguide on his trip to Africa in Nov. 21 issue, page 3-T.

Sun., Dec. 7, 2:00 p.m. (NBC-TV) **Watch Mr. Wizard**: "Measurement." Betty Sue weighs a fly s wing and times the speed of a bullet in thousandths of a second. Dec. 14: "Paper." Doug makes his own paper on which he writes instructions for how to make more.

Mon., Dec. 8, 6:30 a.m. (NBC-TV) **Continental Classroom**: "Hooke's Law." Dec. 9: "Experiment on Elasticity." Dec. 10: "Vibrations and Waves." Dec. 11: "Pendulums." Dec. 12: "Resonance and Forced Vibrations." Dec. 15: "Bernoulli's Principle." Dec. 16: "Surface Tension." Dec. 17: "The Gas Laws." Dec. 18: "Kinetic Theory of Gases."

Sun., Dec. 14, 5:00 p.m. (CBS-TV) **Conquest**: See Teleguide on page 9-T.

DRAMA

Wed., Dec. 3, 10:00 p.m. (CBS-TV) **U.S. Steel Hour**: "The Enemies," adapted by Bob Van Scoyk from a story by Stephen Vincent Benet. Two competitive political bosses feud throughout their public life and into old age. A conflict arises when their children fall in love, and the son decides to run for public office with his father's endorsement. The opposition runs a party hack and the daughter finds her loyalties divided between her stubborn father and her campaigning lover. STUDY QUESTIONS: 1. Does the plot of "The Enemies" remind you of any other literary situation? 2. How many different types of politicians are in this play? Try to think of politicians either in public life or prominent in history who would fall into each category. Did any of your classmates have different—or opposite—ways of classifying any one politician? What does this disagreement tell us about how we think about politicians? Is it wise to "type" candidates? 3. Do you agree with the Judge that his feud with Bayne was a good thing? When is it a good thing to make an enemy? When is it merely petty? Which kind of feud was the enmity in the play? Do you think that in life the feud of "The Enemies" would produce constructive results as it does in the play? What has been the practical results of other feuds in political history? 4. In what ways does "The Enemies" satirize or indict our political customs? Are any of these serious shortcomings? Were there any real issues between Bayne and the Judge? Do you recognize any of those practices in local or national politics? Why might politicians be unwilling to touch real issues?

Thurs., Dec. 4, 9:30 p.m. (CBS-TV) **Playhouse 90**: "Free Weekend" by Stephen Gethers. The playwright who last year presented a dramatization of the indignities forced upon the purse-poor teacher ("Cracker Money") once again does a closeup on the educator's family problems. Parents visit their children at an expensive summer camp. Ex-campers and counsellors themselves, the parents meet their former camping friends for the first time in many years. The reunion reveals their values, their attitudes toward children, and the changes that have come with age to each. The reunion also highlights the many pressures brought on the camp and the counsellors by anxious parents and their competitive children.

National Radio and TV programs by representatives of religious faiths are listed once each semester.

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In hilly areas with thick overburdens, auger mining is often used. In this case, the side of the coal seam is exposed and huge horizontal augers bore as deep as 200 feet into the seam to bring out the coal.

This mechanization of our country's coal mines has so increased the productivity of the American coal miner that he now produces nearly 11 tons per day compared with 6.77 tons in 1950. Coal operators continue to invest millions of dollars annually in mechanization, for the American coal industry must plan and prepare now in order to meet the growing energy demands of the future.

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